Demonstration
ON
THE PATHOGENIC ORGANISMS OF THE UPPER RESPIRATORY TRACT.

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[AT the recent meeting of the British Medical Association at Newcastle-on-Tyne Dr. Macintyre gave a demonstration on the Pathogenic Organisms of the Upper Respiratory Tract, with special reference to diseases of the naso-pharynx and ear, and he afterwards opened a discussion on the etiology of diseases of the naso-pharynx and ear, with reference to the bacteriology of these regions and its importance in treatment. The demonstration consisted of a large series of drawings and photographic slides illustrating the principal organisms which have been found in the upper respiratory tract. Specimens were shown illustrative of the parasitic or saprophytic organisms which are considered to be non-pathogenic, as well as a large number of drawings of those which are now accepted as being pathogenic. There were likewise sections demonstrating the passage of micro-organisms from the surface to the interior of the body, with their subsequent development within.] In introducing the subject Dr. Macintyre said:

Our discussion is more or less limited to the pathogenic forms, but without a knowledge of the ordinary bacteria no progress can be made in the life history of those organisms which it is our special function to consider. Further, no sooner has one embarked upon the study of the pathogenic organisms in this or any other part of the body than one is confronted with the question, What are pathogenic organisms? The difficulties in this way are great and the state of our present knowledge is quite insufficient, because it appears that some organisms apparently parasitic and quite harmless in the host may under altered conditions of the surroundings or life history produce products of a destructive nature. Further, it has even been suggested that some organisms are harmless in the body until others are introduced, and, conversely, that some organisms when introduced into the body are rendered less powerful by the introduction of other forms or even the products of other forms. It is for this reason that in the demonstration which I have given the non-pathogenic as well as the pathogenic organisms have been exhibited. Whilst a large number of apparently harmless organisms can be found in the nose, mouth and throat, it cannot be said that many of the pathogenic organisms are to be found in these parts of the body in health. The mouth is perhaps the most interesting in consequence of the number of organisms being numerous. This fact can be explained by the many different things containing organisms which must naturally pass through any part of the alimentary canal. This is an important point in treatment because, owing to the number of accessory cavities in the region of the nostrils, where microbic agents may lodge, it is absolutely necessary in making wounds in the region to attempt as far as possible to obtain an aseptic condition.

[The paper was then divided as follows: (1) the consideration of the principal micro-organisms of interest to aural surgeons; (2) a reference to the affections which in all probability will be ultimately classified as being bacteriological in origin; and (3) indications for treatment.] The lecturer continued:

As regards pathogenic organisms, of inflammation and the suppurative processes, these were first referred to because of the widespread nature of the affections; indeed, it is not an easy task to find a large number of healthy individuals who are absolutely free from some inflammatory condition of the mucous membranes of the upper respiratory tract. Further, it must be abundantly evident to all that the word "catarrh" covers a great number of different conditions. Lately our work has been somewhat simplified by the division of rhinitis, in its clinical and pathological aspects, into hypertrophic and atrophic rhinitis. A moment's reflection will show us that this division cannot cover all the conditions which are at present included in this term. We have othe inflammatory conditions—some apparently simple in nature, others contagious and running a definite course. Further, we have the more serious inflammations which attend all specific inflammations, such as tubercle, lupus, syphilis and malignant disease, and there can be no doubt of the association between ordinary catarrh and such constitutional conditions as acute rheumatism &c. Whilst the state of our knowledge does not allow us to give anything like a complete classification, still the fact can be easily demonstrated that these catarrhal conditions arise from many different causes and, what is still more important, that the etiological factor may be applied at the seat of the disease or at some distance from it. Many examples might be quoted, but the following will suffice. Whilst some inert foreign bodies may be for long periods in the upper respiratory tract, say in the nostril, without causing much disturbance, others—particularly irritating chemical substances—set up catarrh. Again, the products of cultivations of an irritating microbic substance (the chemical extracts without the living organisms) will produce catarrh at the seat of application. Further, a small quantity of the products of bacilli—say tuberculin—when injected subcutaneously at a distance will show, as in other parts of the body, the same mucous membrane in a state of inflammatory irritation. Lastly, the injection of the blood from a patient suffering from measles into the body of a healthy individual produce evidence of catarrh in the mucous membrane of the same regions. It is evident therefore in the first instance that catarrhs are due to different etiological factors and that certain agents applied from without the body and other agents brought from within (reaching it from the deeper surface) will produce that series of changes in the mucous membrane which is termed "catarrh." The view that inflammatory conditions could result from some, if not all, inorganic materials has long been accepted; but doubt was thrown upon this power of inorganic substances to produce inflammation or suppuration. Whilst the tests are difficult to make, the bulk of evidence seems rather to be in favour of the view that under certain conditions inflammation of a sufficient degree to produce suppuration can be induced by certain substances without the living organisms. For example, we know that it is possible to inject the extracts of the organisms usually associated with the suppurative processes without the organisms themselves, and the inflammation set up may be of sufficient degree to give evidence of suppuration. To admit that chemical substances that have been derived from bacteria, when sterilised, are still capable of producing inflammation, going on to suppuration, is to grant the fact that inorganic material may produce this condition. Whilst that might be the case, most observers agree that the majority of inflammatory conditions with which we have to deal are due to microbic invasion, and these are the worst, inasmuch as the living organisms can reproduce themselves and their products. It is worth our while to consider what this inflammation exactly means. When a part is sufficiently irritated, say, by the application of a heated platinum wire to the tissues, a zone of inflammation can be detected round the part to be cast out, and as the dead material is cast out it is evident that the line of demarcation is simply an indication of the granulation surface which lies between the dead and living material, and whose function it is to cast out that which is of no more use in the economy. In the same way, enlargements of the lymphoid glands, hypertrophies of the lymphatic structures in the mucous membrane and the various tonsils may be looked upon as being indications of the struggle which is going on in the economy to arrest the invasion of microbic influences and also by means of the secretion and excretion to get rid of the products. Further, the secretions themselves are doubtless indications of the casting out of these deleterious materials. This distinction is of great use in treatment, as will be noticed further on, because it is only by regarding inflammation in a sense as a reparative process that anything like success can be expected in our treatment.

[The organisms which are usually associated with the production of inflammation and the suppurative processes were next carefully considered, and, whilst special attention was paid to the staphylococcus pyogenes aureus and albus, the possibility of other organisms causing these conditions was carefully discussed.] Dr. Macintyre proceeded:

In this connexion it is extremely interesting to note the case recorded at the previous day's meeting by Professor Horsley, in which, after opening into a cerebral abscess the

mischief continued in spite of the surgical operations. The bacteriological investigations have clearly pointed to a virulent micro-organism hitherto unrecorded, which, although associated with the other forms usually found in abscess, had proceeded further and further in the cerebral structures and so rendered the ordinary operative measures unsuccessful. There can be no doubt whatever that different organisms, either of themselves or associated with the suppurative processes, modify or intensify or of themselves produce suppuration.

[In this connexion a series of drawings was exhibited showing the presence of large numbers of cocci in apparently infectious inflammatory conditions of the trachea. Dr. Macintyre said that those cases which had come under his own observation were certainly not diphtheritic; but they were infectious and produced suppurative discharges, but neither in the tissues nor in the latter could the bacillus of Loeffler be found. A rather important point in connexion with catarrh to be noted was that the majority of persons suffering from inflammatory conditions absorbed other micro-organic substances. Examples might be shown in large numbers from such cases as chronic tonsillitis in children becoming affected with diphtheria. Dr. Macintyre gave another series of cases which had come under his observation in which old-standing inflammatory conditions in the region of the nostrils had given rise to others of a serious nature. He quoted as an instance a case of mastoid disease which he had operated upon two years previously and in which the patient had most likely absorbed a pathogenic organism when himself suffering from an old-standing rhinitis and during the nursing of a child which had died of diphtheria. The change in the secretions had been carefully noted by the patient himself, and after the event referred to they were purulent and graver symptoms set in. Evidence of abscess on the septum, suppuration of the ethmoidal cells and extensions to the middle ear and to the mastoid region were clearly enough traced as being successive events in the case referred to. Such cases as that taught the immense importance of attending to the membranes of the nostrils, and also of searching the accessory cavities, such as the antrum of Highmore, the frontal sinus and the ethmoidal cells, and it might be even of the body of the sphenoid itself, for all such deleterious matter; and he quoted instances of a number of cases of suppuration in the region of the sides of the septum, and reminded his hearers of the opinion given by Hajek, who had referred to the possibility of the small canal of Jacobson containing micro-organisms of a non-pathogenic or pathogenic nature. As regards erysipelas, Dr. Macintyre first discussed the question of the identity of the organisms in that disease with those to be found in the suppurative processes, and then proceeded to refer to a series of cases which he had formerly published and in which he had shown that recurrent attacks of erysipelas in this region, and which in some had extended to the face, were to be traced to the presence of these organisms in some of the accessory cavities in the nostril. In this connexion, he said, the question arising would naturally be, Are not a considerable number of abscesses in the nasal cavity and in the antrum of Highmore and even post-pharyngeal abscesses due to the organisms of erysipelas? He thought, from the facts laid before the meeting, that it was fair to assume that there was an association and even a causal relation. The cases which he had quoted showed that, whilst they might assume that there was accidental infection from without, the bulk of evidence went to prove that the spores had been long lying in the cavity and only required a suitable opportunity for development. He also had cases reported to him in which such mischief had followed operation in the region of the nostril or antrum of Highmore, and these had occurred in the hands of most careful surgeons and at a time when nothing in the wards could have suggested contamination from erysipelatous material from without. Dr. Macintyre next showed a number of drawings of cases of apparently infectious croupous inflammation. In cases of scarlet fever and measles these were often found quite apart from any complicating disorder beyond an acute exudative inflammation of the mucous membranes in the nose and naso-pharynx. He next briefly considered a series of acute conditions of the upper respiratory tract, such as pneumonia, gave a full description of the micro-organisms which have been found there by Fraenkel, Friedländer and others, and selected from the acute conditions the example of diphtheria for special study. He described in detail the action of the diphtheritic poison in the nose and naso-pharynx and traced it in its passage thence to the Eustachian tube and the organ of hearing. Specimens of Loeffler's bacillus were shown and his work was described, as were also the results obtained by Roux and Yersin, with special reference to typical paralyses in animals, not only with the germs but with their products. Even the internal ear had been found to suffer during this condition, although it had not been proved clearly that typical bacilli had been found therein. Dr. Macintyre said that he made it a point, in cases of diphtheria or in all doubtful conditions, to make an examination of the discharges or secretions, and he had been so far rewarded by earlier diagnosis than he could otherwise have made. He quoted the works of Baginsky, Tangle, Welch, Flexner and others in support of such views. When a surgeon was confronted with an acute affection in which there was the slightest suggestion of such a serious malady in the throat it was of the greatest importance that there should be a complete and early diagnosis. The task of the ordinary medical practitioner was too great, and there ought to be some means whereby in the public laboratories of our cities the practitioner could either himself investigate or send specimens for investigation, the result of which would be returned to him in the shortest space of time. It was a matter of hours, certainly not days, and until some better method of bacteriological investigation was introduced and systematically carried out cases of diphtheria would be allowed to pass through the important earlier stages, the overlooking of which was often fatal to the patient. The next groups of infectious diseases considered and briefly referred to were those included under the headings of tubercle, lupus, syphilis and, as being less common though not less interesting, leprosy and rhino-scleroma. Drawings were exhibited of sections made and cultivations of all the known organisms usually found in these conditions. After demonstrating the various organisms above referred to, special reference was made to their occurrence in the upper respiratory tract and particularly in the region of the ear, in the tissues themselves and in the discharges.] Dr. Macintyre continued:

Passing to the consideration of affections which are usually considered as being attributable to the presence of organic micro-organisms but which have not yet been proved to have a microbic origin, the exanthemata may be briefly dealt with. No one who is engaged in the study of ear disease can afford to forget the number of cases which in the beginning are attributable to such affections as scarlet fever, measles, whooping cough &c. It is too often forgotten, moreover, that the same lymphoid tissue which we find in the lymphatic glands and in the pharyngeal, lingual and post-pharyngeal tonsils is also to be found abundantly in the mucous membrane of the nose and naso-pharynx. If the glandular structures in the body are actively engaged in casting out the disease why not the lymphoid tissue in the lining membrane of these cavities? These diseases come under our observation in two states: firstly, during the acute stage or whilst the fever is running its course, and subsequently as the sequelæ of later years.

[Cases were quoted from Watson of Belvidere showing that not only the mucous membranes but the cartilages and bones might be destroyed; that the infection might strip the passages of their covering not only in the naso-pharynx but in the Eustachian tube, and that fluids whilst being swallowed might be seen coming out of the external meatus. On the other hand, for the most part we had to deal with the sequelæ in chronic conditions, and it was to be hoped that the organisms specially associated with this affection would soon be determined. The work of Klein and Edington in this department was fully gone into. As regarded malarial conditions, acute rheumatism and gout, these had undoubtedly a considerable influence in introducing mischief into this region, and, as they were aware, as far back as 1871 otitis intermittens was the name given by Weber Liel to attacks which were attributable to malarial influences. A passing remark was also made as to such conditions as ozæna.] Dr. Macintyre proceeded:

Although investigations of the microbic origin in this direction have been carried out, there is such a difference of opinion at present that it might be wiser to leave the consideration of it until the studies of the organisms which are found in this condition have been more fully carried out. There is one interesting group which must not be passed over in the consideration of micro-organisms—that is the presence of fungi. Wreden, Mayer and Schwartze have done excellent work in this department and many observers have confirmed their investigations. As a rule these organisms are found in

the external meatus, the mucous membranes of the body not being very suitable for their cultivation. Gruber says in his excellent work that Burnett considers that varieties belong to the arthrospores.[1] The same writer remarks that no inflammation can be produced by introducing them into animals. He holds that this result is not inconsistent with the possibility that under special conditions such inflammation may ensue. Certainly they may be long present in the ear without causing much irritation, but it may be that by loosening the epidermis, producing irritation of the parts—especially of the tympanic membrane—sufficient intensity may result to superinduce inflammation. It need scarcely be mentioned that the Eustachian tube, middle ear, and for that part the external meatus form an exceedingly good place for the life-growth of such organisms, particularly the organisms of suppuration. These have been found in large quantities both in the small abscess found in the external meatus and in discharges from the ear. The bacilli of fetid pus have also been found. It is interesting to point out likewise that specific organisms have been found therein. Nabermann has recorded the presence of bacilli both in patients who were suffering from tubercle in other parts of the body and in patients who were not so affected. One must ever remember that such bacilli might be found in the discharges without having affected the patient's tissues. Nathen has recorded it in twelve out of forty cases of otorrhœa and doubtless the same fact has been confirmed by others. The bacilli of diphtheria have likewise been found in connexion with those cases which have extended from the naso-pharynx, and we also know that in those acute affections mischief in the labyrinth has been reco.ded, but not the specific organism. Friedländer's bacillus of pneumonia has likewise been found in the naso-pharynx and Eustachian tube.

A paper such as this would be incomplete without some reference to the recent work which has been done by Sudakavitch, Rufer and Walker on the origin of cancer. If we set aside the bacterial theory they have not a place in this paper. At the same time the possibility of being able to trace malignant disease to parasitic origin would be satisfactory because most of us are sceptical as to the possibility of irritation alone being the cause. The treatment of such conditions resolves itself into the prevention of disease and the treatment of those already affected. Inoculation might first be referred to because of the good results which have hitherto been obtained from vaccine; but even the experiments of Pasteur in introducing the poison of hydrophobia after the disease has been communicated to the individual does not induce us in the present state of our knowledge to hope for great results in such a direction with all affections. Whilst we cannot expect immunity from all disease in this direction we can do a great deal to prevent mischief where we are called upon to make primary wounds. Unfortunately the majority of patients come to us infected, but that is no excuse for the surgeon to neglect every antiseptic detail. I should here like to make a distinction between the antiseptic treatment in the nose and throat. The general surgeon, as a rule, has an advantage in the sense that the majority of wounds can be kept excluded from the air. The necessity, however, for air and food places one at a disadvantage in treating the nose and throat. The nose belongs to the respiratory tract and, as has been pointed out, pathogenic organisms are found much less frequently in this region during health than in the mouth and alimentary tract. We now know that by means of antiseptic dressings in the nose the parts can be kept comparatively sweet for a considerable period and if not exclusively by dry dressings certainly by a combination of fluid antiseptics with them. When we consider the number of accessory cavities in the region of the nose we are thankful for the amount which can be done to render our cases aseptic. On the other hand, with the exception of the tonsils in the mouth and pharynx there is not the same possibility of lodgment of germs and by cleanliness before and after instrumentation something akin to the same condition as in the nose may be attained. When we come to consider the treatment of persons already affected the problem becomes much more serious. As was said at an earlier part of the paper, we are not as yet in a position to discard the teachings of the past although we look forward with great hopes to the future, and so we are at present forced to treat a considerable number of cases from the symptomatic point of view. In saying this I guard myself against routine or empirical treatment, at least more than is absolutely necessary. Our literature on this point is very much confused and the reason is not far to seek. The division of our therapeutic agents into astringents, sedatives &c. was made at a time when the knowledge of etiology and physiology was comparatively crude. How can we expect great benefit to follow the painting of a nose or throat with a solution of tannic acid or nitrate of silver if the cause of the catarrh be a specific organism which is capable of obtaining lodgment in any of the accessory cavities of the nose and throat? Again, in the instance quoted of catarrh at the beginning of the paper, foreign bodies, poisons &c., whether they are introduced from without or from within the body, are capable of producing inflammation, and even death, at the part, with considerable inflammation in the vicinity. Surely the true treatment lies in the removal of the cause. Many of these inflammatory processes are wholly reparative, and if this be so what do we intend to do? Do they not often retard rather than help nature in her mode of casting out the disease? But the question is a very wide one and no one will be able to speak with authority on the subject until further experiments have been made. Every antiseptic must be treated in its relation to a specific organism, and the best germicide for each affection must be found and the proper strength to use must also be known before any great progress can be made. In the absence of agents which will effectually destroy the parasite without injuring the host we are forced to fall back upon a careful study of the methods by means of which nature casts out deleterious material. The *vis medicatrix naturæ* is fortunately very powerful or decimation would result, and it ought to be helped and not impeded; hence the necessity for thorough search in every detail for constitutional diathesis and for passing or inherent weakness in the individual to be treated. In the department of the ear certainly a very great deal has already been done by the study of physiology in aiding nature to get rid of difficulties and also by the attention which is now being paid to the free access of air through the nasal cavities. We know that a slight alteration in the secretion may lead to changes in the membranes themselves and that not only the soft tissues but also the hard ones, such as cartilage and bone, may become so altered as to render improvement impossible. It is because of this that we are justified in placing before the profession the results which have recently been obtained in the prevention of disease in the ear by the conservative, though necessary, removal of all hypertrophies of membrane or adenoids, deviation of the septum and alteration in the structure of the other nasal bones which interfere with the true respiratory functions. I say little of the ordinary methods at our disposal which have been recommended for these conditions, such as inhalations, gargles, insufflations and other medicines. I do not desire to minimise their importance, but to find their true value; and my reason for not paying so much attention to them is simply that we are all familiar with them. Their use, however, is becoming more and more limited as we understand the true nature of diseases. All the same they are worthy of a place, but it seems to me that the recent study of etiology and pathology will demand a reason for the employment of each. To give a spray or gargle for the fauces and neglect the regions above and below will not satisfy us any longer. The time has come when a demand must be made for an explicit reason for the application of local agents, such as pigmentation and sprays, to organised tissues which nothing but surgical interference can possibly remove. It must be evident that a great number of the conditions above referred to are present in the patients whom we are called upon to treat. The specific infections and old-standing catarrhs are generally brought to us long after the time when we might have expected to have done anything by way of prophylaxis, but the results are apparent enough. It becomes our duty to warn practitioners who are usually entrusted with the earlier stage of these cases that such consequences may ensue from neglect of catarrh, particularly in children, if due attention be not paid to judicious rest, sanitary conditions locally, and the encouragement of the *vis medicatrix naturæ*, and, lastly, to the protection of patients from causes which may provoke recurrence. It should not be the boast of the parent how soon his or her child has been able to rise or to go out after an attack of measles, but rather as to the complete recovery that has been made; and, further, that no child should be left under the hope that the so-called dregs or sequelæ, which are evidenced

[1] He gives the following list: Aspergillus niger, aspergillus glaucus, aspergillus flavus, mucor mucedo, mucor racemosus, ascophora elegans, trichotheeium roseum, microsporon furfur and lurotinus repens.

by the presence of catarrh or stenosis of the external meatus or nose, will be removed in some extraordinary way which is usually designated by the obscure term of "growing out" of it. If guardians could foresee how small beginnings are accountable for the impairments of vision, hearing and voice, which will inevitably handicap the patient in mature years, more attention would be paid to them. That complete prevention of these conditions cannot always be attained we know, and on this account we give all honour to workers, such as Pasteur and Koch, who are attempting to do something which will arrest the progress of the affection once the inoculation has taken place. At present, however, we have to deal with what we have at hand, not with what may come in the future, and it seems that the invasion of disease must be followed by its removal at the earliest possible period and that the boundary line between these points, which has in the past been indefinitely prolonged, must become smaller and smaller until it has finally disappeared.

Address
ON
CHLOROFORM.

Delivered before the Officers of the Medical Staff and Indian Medical Service stationed in Secunderabad and District, Surgeon-Colonel Roberts, Deputy Surgeon-General, presiding.

BY SURGEON-LIEUTENANT-COLONEL E. LAWRIE.

MR. PRESIDENT AND GENTLEMEN,—The practical point in chloroform administration is now what it has always been: Is the pulse to be taken as a guide to the effect of chloroform or is it not? The answer to this question depends entirely on its effect on the heart. If it can be proved that chloroform ever has any direct action on the heart, it must be right to watch the pulse; but if it can be proved that chloroform never does affect the heart directly under any circumstances it is no less certainly wrong, in the sense of being unnecessary, to do so. It was to determine this question that the Hyderabad Commission was appointed, and in support of this statement the following passages are quoted from THE LANCET of Sept. 21st, 1889: "The question whether chloroform paralyses the heart or not is one of the greatest possible practical importance, for upon its correct solution the lives of thousands of people and the happiness of thousands of families may depend. Both in Europe and America clinical experience and physiological experiments have led to the conclusion that it has a paralysing action on the heart, whilst ether exerts such an action in a very minor degree, if at all. In consequence of this ether is now largely used in this country as well as in America for producing anæsthesia in surgical operations in spite of the greater pleasantness and convenience of chloroform. It is almost impossible to believe that the conclusion at which European and American surgeons and scientists have arrived is, after all, destitute of foundation and little better than an idle dream. It may not be possible to work out completely all the questions which may arise, but if the Hyderabad Commission, with the aid of Dr. Lauder Brunton, can settle definitely the question whether chloroform does or does not affect the heart directly, a most important practical object will have been attained by means of the Nizam's generous offer."

Up to the year 1879 there were two rival schools with regard to chloroform. The Edinburgh school, represented by Simpson and Syme, held that chloroform has no direct action on the heart: "We are guided as to the effect not by the circulation, but entirely by the respiration." The London school, represented by Erichsen, believed that chloroform affects the heart directly: "When anæsthetised the patient requires the most careful watching by the chloroformist; his finger should never be off the pulse nor his eyes taken away from the countenance of the patient." Each of these schools had its enthusiastic adherents. Before 1870, when Simpson and Syme died, their success and prestige gave the Edinburgh school an advantage. After 1870, when the personal influence of Syme and Simpson had disappeared and Lister had left Edinburgh, the mere fact that deaths occurred from time to time under chloroform in an unexpected and apparently sudden manner and were attributed to heart failure caused the tide to flow the other way; and in 1879 overwhelming preponderance was given to the views of the London school by the report of the Glasgow Committee of the British Medical Association. The Glasgow Committee made a limited number of experiments on dogs and rabbits and published tracings of a manometer experiment on a dog which showed that chloroform lowers the blood pressure and that sometimes under chloroform the fall of blood pressure is sudden and, as they said, capricious. The Glasgow Committee stated that the fall of the blood pressure alone shows that the inhalation of chloroform is always dangerous and that the sudden falls show that chloroform may cause death by sudden stoppage of the heart; and herein lies its chief danger. No one thought of inquiring whether a fall of blood pressure is in itself dangerous or not, in spite of the extraordinary fact that the animal from which the Glasgow trace was taken did not die. Its breathing was unaffected and the only sign on which the theory of danger was based was the fall of blood pressure shown in the manometer tracing. This fall of blood pressure was assumed, without the shadow of a proof, to mean weakening of the heart, and on this ground the Glasgow Committee recommended in their report that "it is incumbent on everyone giving chloroform to watch the pulse." The tracing of the Glasgow Committee was accepted almost universally. I had given chloroform for fifteen years and had never watched the pulse and never had a death, but the tracing and report of the Glasgow Committee appeared to me to be almost hopelessly damaging to the Edinburgh School. Chloroform had to be employed, however, in surgical cases in India, and I continued to administer it without a fatality in the way I had been taught in Edinburgh by Syme. At the end 1888, nearly ten years later, the Nizam's Government appointed the first Hyderabad Commission to carry out experiments with chloroform on dogs. Of this Commission my old friend Dr. Hehir was president. In commenting upon the experiments of the first Hyderabad Commission THE LANCET of March 2nd, 1889, said: "Mr. Lawrie, as a disciple of Simpson and Syme, arrives at conclusions consonant with the teaching of those great clinicians but utterly at variance with the experience alike of experiment and practice as carried out in Europe. Whilst welcoming the attention paid to the subject by the Hyderabad Commission we cannot but feel that, should the Commission inculcate a disregard of the heart as a factor in chloroform dangers, it will do harm and provoke a slipshod carelessness in the use of that valuable anæsthetic which must in the long run do damage to the cause the Commission has espoused."

In reply to this I wrote to THE LANCET of May 11th, 1889, and urged the appointment of a joint European and American Commission to confirm or disprove the conclusions of the first Hyderabad Commission. This suggestion was disregarded, and on Sept. 21st, 1889, the Nizam's Government, with unprecedented liberality and public spirit, appointed a second Commission, with Dr. Lauder Brunton and Dr. Bomford as members. Speaking in anticipation of this Commission THE LANCET said: "It may perhaps be considered as a further advantage that in this work Dr. Lauder Brunton has very decidedly stated that one of the dangers resulting from chloroform is death by stoppage of the heart. 'Audi alteram partem' is the motto of an important section of THE LANCET, and we think that by getting both opinions regarding the effect of chloroform on the heart represented on the Commission, as they will be by Dr. Lauder Brunton and Surgeon-Major Lawrie, we are more likely to obtain a correct conclusion." Dr. Brunton arrived in India firmly convinced of the reality of sudden death by stoppage of the heart under chloroform. He considered that there was no danger with chloroform in capital operations like amputations of the leg or arm, but that the special danger with chloroform lay in minor operations like dividing the external rectus for strabismus or cutting out the toe-nail. I well recollect Dr. Bomford saying, when he propounded these views, that if they were correct all that was necessary to make the safe operation of cutting out the toe-nail under chloroform would be for the patient first to have his leg off.

We are now in a position to understand clearly the lines on which the research of the second Chloroform Commission was carried out. The earlier experiments of the Commission were devoted to persistent attempts by Dr. Lauder Brunton to stop the heart, and after every stage of the work was completed

he returned to this point. Every conceivable operation that his ingenuity could suggest was performed without the slightest result as far as the heart pressure or blood pressure was concerned. When it was found impossible to stop the heart directly by chloroform or by chloroform combined with any form of surgical shock Dr. Bomford suggested that we should stop it by electrical irritation of the vagus nerve. First we discovered that this stoppage of the heart did the animal no harm, and afterwards that slowing of the heart under chloroform delayed the conveyance of chloroformed blood to the nerve centres and prevented poisoning. The delay or prevention of poisoning was evidently effected in two ways. In the first place, it is clear that if air in the lungs is full of chloroform and the pulse is 60 a minute 60 atoms of chloroform will be taken up by the blood as it passes through the lungs every minute; but if the pulse is slowed down by the action of the vagus from 60 to 20 not only will the intake of the chloroform into the blood from the lungs be diminished from 60 to 20 atoms a minute, but it will be conveyed to the brain at a third of the rate. We found, then, that sudden lowering of the blood pressure and stoppage of the heart by irritation of the vagus nerve was not a danger but a safeguard. But we found further that stimulation of the vagus actually produces the Glasgow trace, and we also discovered that the Glasgow trace can be produced naturally in various ways. For example, it may be obtained by cramming a cap with concentrated chloroform over the animal's mouth and nose and by making it hold its breath or by asphyxiating it; or by over-dosing it with chloroform so that the respiration is stopped. In all these conditions the Glasgow trace can readily be reproduced, and it can never be obtained when the vagus nerves are divided except by electrical irritation of their cut ends. Obviously therefore the Glasgow trace was due to irritation of the vagus. Dr. Bomford's discovery not only pricked the Glasgow bubble, but, as you will see shortly, proved to be the keystone of the Commission's work. As soon as it was demonstrated that the action of the vagus nerve is a safeguard in threatened or actual poisoning by chloroform it became clear that chloroform and shock are not associates but incompatibles, and that the supposed capricious action of chloroform upon the heart is due not to the direct effect of the absorbed poison upon the heart or its nerves, but to the indirect effect of concentrated vapour or to the direct effect of poisoned blood upon the nerve centres, resulting in either case in the exclusion of the poison from the system. The supposed danger indicated by the Glasgow trace is therefore a myth and the London method of chloroform administration, of which the essential principle since 1879 has been to watch the pulse for sudden heart failure and under which so many deaths have occurred, is founded on error: that error being a misinterpretation by the Glasgow Committee of their own tracing.

The third portion of the Commission's work consisted in the demonstration of the fact that lowering of the blood pressure is a normal condition of chloroform anæsthesia. This was a comparatively easy task. The sudden and unexpected falls of blood pressure which the Glasgow Committee considered exceptionally dangerous, on no other grounds but the manometer tracing, having been proved by the Hyderabad Commission to be a safeguard, *a fortiori* the gradual falls must be a safeguard also. The problem solved itself at Experiment 148. We discovered in this experiment that chloroform can be administered with perfectly uniform results. If chloroform is administered so that the breathing is natural and regular throughout the inhalation there are no irregularities in the fall of blood pressure and the pulse is unaffected. The intake or dose of the anæsthetic is regular, normal anæsthesia is promoted, and it is impossible to give the patient an overdose unless the administration is pushed beyond this point. On the other hand, if chloroform is given so as to interfere with the breathing, or when the breathing is in any way irregular, there are irregularities in the fall of the blood pressure and of the circulation, and these irregularities, together with various signs of vagus irritation, may manifest themselves in the pulse. Irregular breathing leads to irregularity of the intake or dose of chloroform, and it must be clearly understood that when the breathing is irregular or abnormal overdosing may take place at any time during the inhalation. As the pulse is not affected in normal chloroform anæsthesia, it is useless to take it as a guide, and, *per contra*, as irregularities of the pulse are signs of interference with the breathing (which includes overdosing) under chloroform, the chloroformist who watches the pulse does so for effects for which he alone is responsible.

I must now ask you to examine four instructive tracings which show the sequence of events in uncomplicated chloroform narcosis. These events are lowering of the blood pressure, with, first, anæsthesia, then stoppage of the respiration, and then death. Our methods of observation are too coarse to enable us to say when the respiration begins to fail. All we know is that if chloroform is pushed beyond anæsthesia the function of respiration must be interfered with, and it is a matter of common observation that in many cases, clinically, narcosis of the respiratory centre undoubtedly commences before anæsthesia is complete. The early failure of the respiration which terminates in stoppage is amply sufficient to account for the weakening of the heart which occurs in overdosing with chloroform and ends in death. There are, however, considerable differences in the rapidity of the heart failure due to failure of the respiratory function. If you compare the Ludwig tracing 4 of Experiment 186 with the Ludwig tracing of Experiment 169 you will see that whereas the heart failed early in Experiment 169 it continued to beat with practically undiminished vigour for three full minutes after the entire cessation of respiration in Experiment 186 That this occurred with a mercurial manometer and that the heart had to overcome the inertia of the mercury in order to produce this well-marked tracing shows how powerfully it was acting. There are, of course, differences in different persons' hearts, just as there are differences in their faces and bodies generally; some are strong and fail slowly, others are weak and fail rapidly after the breathing ceases in chloroform poisoning. Finally, in this connexion I must beg you to compare the Ludwig tracing 3 of Experiment 186 with the Ludwig tracing 2 of Experiment 162. Each of these tracings demonstrates that when the animal was over-dosed with chloroform its life was saved by the identical stoppage and slowing of the heart shown in the Glasgow trace which we have proved to be due to vagus irritation. In Experiment 186 the irritation of the vagus was caused by electrical stimulation of the nerve. In Experiment 162 it came into play naturally when the animal's respiration ceased and was probably due to stimulation of the nerve by poisoned blood. Stoppage of the heart through the vagus has unquestionably saved many lives in accidental overdosing with chloroform, in spite of the widespread belief that it means heart failure or syncope and that this belief has led to the modern practice of stimulation of the heart with ether, brandy, galvanism and inversion whenever an accident occurs. If stimulation of the heart has any effect at all it can only be to defeat the marvellous and beautiful safeguard action of the vagus nerve and so reduce to a minimum, if not altogether destroy, the patient's chances of recovery.

The above is a summary of the results of the main research of the Hyderabad Commission. The final and most difficult problem we had to face was, How to induce the profession to accept our conclusions? We hoped that physiologists would complete our work by showing the actual causes of the harmless falls of blood pressure under chloroform and whether at any period in chloroform poisoning the heart is directly affected. In this hope we have been disappointed. Trained physiologists cannot apparently divest their minds of the abstract idea which dominated the Glasgow Committee that a fall of blood pressure is necessarily dangerous and we have received little or no help from them. Fortunately we no longer require it. During the last two months we have made a large number of cross-circulation experiments which set all the questions in dispute about chloroform at rest and no further controversy is possible. The experiments were devised for us unwittingly by Drs. Gaskell and Shore. In their own words: "The necessary procedure for the successful carrying out of these experiments was, as may be imagined, long and laborious." In Hyderabad, however, we possess in Mr. Arthur Chamarette, who is an old pupil of the local medical school, a genius at physiological experimentation. His skill and fertility of resource have overcome all obstacles, and the results have amply repaid all our trouble, as will be evident from the description of the experiments. In the cross-circulation experiments, "in order that chloroform, when inhaled in the ordinary way, could be carried to the brain only or to the heart only, the circulation through the brain was separated from the general circulation and a supply of blood for the brain of what will be called the fed animal was obtained from another

animal, the feeder." If the feeder is chloroformed, its chloroformed blood is conveyed to the brain only of the fed and back again to the feeder. If the fed is chloroformed the chloroform is conveyed direct to the fed's own heart and all its other organs except its brain. Practically, according to Drs. Gaskell and Shore, the chloroform in the latter case is carried to the heart only. In the cross-circulation experiment of October 5th, 1892, chloroform was administered to the feeder and conveyed to the brain only of the fed. The tracing shows that in the fed the sequence of events was precisely the same as it is in ordinary uncomplicated chloroform narcosis—viz., lowering of the blood pressure with, first, anæsthesia, then stoppage of the respiration, and then death. The fall of blood pressure can only be due to the direct action of chloroform on the vaso-motor centre. In the cross-circulation experiment of October 7th, 1892, chloroform was administered to the fed and carried to the fed's heart only and not to its brain. The tracing of this experiment shows that concentrated chloroform inhaled in the most rapid manner possible and conveyed to the heart only did not produce anæsthesia, or failure of the respiration, or fall of blood pressure; in fact it produced no effect on the animal of any kind. Taken together the two experiments complete and terminate the work of the Hyderabad Commission. They prove that chloroform has no direct action whatever on the heart, and consequently that the fall of blood pressure caused by the administration of chloroform is not due primarily or in any direct manner to a weakening of the heart's action. They further prove that the fall of blood pressure, which is a normal condition of chloroform anæsthesia, is due to the direct action of chloroform on the vaso-motor centre in the medulla oblongata—i.e., to vaso-motor narcosis. It is for this reason that the fall of blood pressure is, as the Commission originally said it was, entirely harmless. The Hyderabad Commission has never attempted to make its conclusions retrospective; personally I have had in times gone by far too many of what my friend Dr. Dudley Buxton calls "narrow shaves" to feel anything but the most profound sympathy for any man who has an accidental death under chloroform; but it is obvious that henceforth, if chloroform is to be employed at all, it must be administered in accordance with the principles we have all along advocated. Now that chloroform syncope, that bogey of the trained physiologist, has been got rid of, and we know that the heart cannot be weakened under chloroform except by interference with the breathing, there need be no difficulty in recognising the fact that it is useless and dangerous to take the pulse as a guide and that therefore the Commission has made good its claim to have confirmed Syme's teaching: "We are guided as to the effect not by the circulation but entirely by the respiration. You never see anybody here with his finger on the pulse." We have also proved that safety under chloroform can only be ensured by regular natural breathing, which it is the chloroformist's bounden duty to maintain throughout the whole administration.

In conclusion I have only to add that the work of the Hyderabad Commission has been accomplished solely through the right royal munificence of his Highness the Nizam of Hyderabad. It would perhaps be unbecoming in me to speak in the necessary terms of extravagant praise of his Highness's good deed, but this much we may say: as long as the profession of medicine lasts—and it will last for ever—so long will the Nizam's name be famous all over the world.

NOTES OF A CASE OF

FRIEDREICH'S DISEASE OR HEREDITARY ATAXIA IN A GIRL EIGHT YEARS OF AGE.

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HEREDITARY ATAXIA or Friedreich's disease is rare at any age, but I think it is not often seen in a patient eight years old, therefore I make no apology for recording the following case.

A girl eight years of age was admitted to the Belfast Hospital for Sick Children under my care on July 31st of the present year, on account of weakness of her legs, which interfered with her walking. Her mother, an intelligent woman, said that she was quite well, strong and went to school every day until eighteen months ago, at which time she contracted measles and went through a severe attack. Before she had fully recovered from the exanthem whooping-cough developed and from this she suffered severely for two months. Unfortunately she caught "cold," which resulted in an attack of acute bronchitis (more likely broncho-pneumonia) and was very ill—in fact, her life was despaired of for some time. She, however, recovered, and it was during convalescence that she was noticed to be weak on her legs, so that she stumbled and "one leg went by the other." She had become steadily and manifestly worse since. She is the eldest child of a family of three, the other two children being boys. The second child died at the age of twenty months from an attack of broncho-pneumonia. He was a fine, healthy, well-developed boy, and this was the only illness he ever had. The other child is a healthy boy of five years; he goes to school every day, he is not a nervous child, and his knee-jerks are present and normal in degree; he has neither foot deformity nor spinal curvature. The mother is a healthy woman in every respect; she does not consider herself a nervous person and is not easily frightened. She has three sisters and one brother. One sister died from phthisis; "she was a nervous girl, easily startled and would then twitch all over" (hysteria?). The other girls are in good health and so also is her brother. None of her relatives ever had any deformity of the feet or peculiarity in walking, and on this point I asked her to obtain information for some generations; otherwise the family history was unimportant. The mother informed me that the patient was a healthy, well-nourished infant; he was born at full term and was breast-fed for sixteen months. She was very ill whilst her teeth were erupting and on one occasion she had a convulsion whilst a lower molar tooth was being "cut." She had no skin eruption of any sort and she never snuffled at any time. She began to walk by holding things when a year old and was able to run about at fifteen months. She went to school at four years of age and progressed very well.

The patient is fairly well nourished, with a good colour in her face and a fair complexion; she has slept well and taken her food well since admission to hospital. The first thing noticed was, as I already said, her defect in walking. She walks in a characteristic and striking manner, her legs being thrown about in a very irregular way and her feet kept widely apart. She does not raise her feet too high above the ground, nor does she bring them down with a stamp. There is a tendency to talipes varus of the right foot when she walks, and when lying in bed or sitting on a chair with the feet hanging down there is a marked tendency to antero-posterior shortening of the foot, with great prominence of the ball of the great toe; this is present in the left foot as well as the right, but in a lesser degree. The soles are markedly hollowed also. In consequence of her reeling gait she does not like to walk alone for fear of falling, and when she does make the attempt her body and head are strongly bent forwards and she keeps a careful watch on the ground. The arms are thrown about in an irregular way, but they are not used for the purpose of balancing the body, because she walks just as well with her arms bandaged to her sides. When she stands she is constantly swaying forwards, backwards and from side to side; she has a strong forward inclination, so that the normal antero-dorsal curve of the spine is obliterated, the column being straight. There is very marked contraction of the lumbar muscles, which are seen and felt as large and hard masses; they seem as if making a strong effort to support the body in the upright position. When asked to put her feet close together her power of standing is greatly diminished, and it was only after being assured that the nurse and I would not let her fall that she accomplished the act. She can turn round promptly and correctly, but she is inclined to do so too quickly, so that she staggers very much when she gets round. The upper extremities are only slightly affected. She can pick up a pin, but buttoning her jacket gives her much trouble, and she often fails in doing so entirely; this is due to want of coördination. The muscular power is good in both hands, so that she can grasp tightly; there is no paralysis and the muscular development is normal. The lower extremities are fairly well developed and the muscles feel quite firm. When she lies on her back and is asked to push against one's hand she can exert a fair amount of force. When lying in bed and told to close her eyes she cannot place the heel of one foot on the toes of the other accurately. The knee-jerks are entirely absent. Choreic movements were very marked when she came into hospital, so much so that at my first visit on inquiring of the nurse what was the nature of

the case she said that it was chorea. The movements on close observation are seen to be not quite the same as in chorea, but affect the trunk more than the limbs, producing a shuffling or shifting movement; they affect the arms and legs only slightly and the face not at all. When she tries to button her jacket she makes steady, quiet and persevering efforts to succeed, not at all like the violent and tearing efforts made by a child suffering from chorea. A well-marked lateral curvature of the spine is present, occupying the dorsal region. The column curves three-quarters of an inch to the right of the middle line from the fourth to the tenth dorsal vertebræ. The cervical and lumbar regions are straight and there is no tenderness anywhere over the spine. I tested her cutaneous sensibility and considered it to be exaggerated to heat and cold. She is very sensitive to tickling of the soles of the feet and bursts into a loud laugh when they are tickled. There is no difficulty, nor has there ever been any, with the bladder and rectum. When placed on the floor on her back and told to get up she raises herself into the sitting position, then gets on her knees and assumes the upright position with a spring. The whole process is performed quickly and without trouble, but she is very unsteady when the erect posture is finally reached and would fall if not assisted. There have been no lightning pains complained of at any time either in the lower limbs or elsewhere. When told to close her eyes and to put her forefinger on the tip of her nose she fails, missing the tip by about an inch. She protrudes her tongue quite straight, but her speech is slow, thick and drawling. The pupils react to light and accommodation; the optic discs are perfectly normal and there is slight nystagmus, which becomes more apparent when she accommodates for near objects. Romberg's symptom is not marked; indeed, I think she stands just as well with her eyes closed as open. The intellectual faculties are normal; in fact, she is a bright-looking girl and answers questions promptly. She is interested in all that goes on in the ward and amuses herself with the other children. Her general health is good and she eats and sleeps well.

Remarks.—In this interesting case I think it will be admitted that the symptoms are sufficient to warrant me in naming the case as one of Friedreich's disease, but the hereditary part of the history broke down at every turn. I made inquiries extending to previous generations and could find no history of anything of the kind in the family on either side, neither club-foot, spinal curvature nor peculiarity of gait. It is worthy of note that in this case there is a strong family history of tubercle in both the father and mother. May not tubercle, therefore, be the cause of postero-lateral sclerosis of the cord in some cases? I have not seen this point mentioned and would like to know if it has been noted. I regret that I was unable to photograph the spinal and pedal deformities; however, the Figures 9, 12, 13, 14 and 16 in Dr. Byrom Bramwell's "Atlas of Clinical Medicine," vol. i., pages 39 and 40, represent very closely the condition of the parts in this case.

Belfast.

ON SOME POINTS IN THE DIAGNOSIS OF SMALL-POX AS ILLUSTRATED IN THE WARRINGTON EPIDEMIC.

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IN speaking of the diagnosis of small-pox I do not propose to cover the whole ground of the many points that may arise in the discussion of the matter, but simply to give some details of my own experience, which will, I hope, prove both useful and interesting.

INITIAL RASHES.

Though the cases of small-pox, of which I have seen upwards of 600, mostly came under observation after the true eruption had begun to appear, and consequently there must have been some in which any initial rash had disappeared before admission to hospital, I have seen several varieties of these most important aids to diagnosis and in each instance have kept records. I believe that these rashes are a comparatively rare feature of small-pox, modified or unmodified, though the danger of not being alive to their signification will be well illustrated by a case which I shall give below.

From my own experience I would divide initial rashes into the following classes: (1) Scarlatiniform; (2) morbilliform; (3) urticarial; and (4) petechial.

1. *Scarlatiniform rashes*, as far as my own observation goes, are general in their distribution, precede severe and often rapidly fatal attacks, and not uncommonly, though not invariably, are an early feature of purpura variolosa. The following cases of the kind have come under my notice: (1) A man aged thirty-nine, having one vaccination mark, died suddenly in a syncopal state after a two days' illness, in which a universal scarlet rash preceded extravasations all over the body. An undoubted case of small-pox was traced to this patient. (2) A man aged thirty-five, alcoholic, and who had one foveate cicatrix of one-ninth of a square inch area, twelve days after encoffining the body of a person dead of small-pox, was admitted with an intense red rash all over the body. A few subcuticular papules could be seen and were readily felt on the forehead. He died about twelve hours after admission, but exhibited no sign of hæmorrhage. A similar scarlatiniform rash preceded the true eruption also in two cases of fatal confluent small-pox.

2. *Erythematous rashes* of a morbilliform type, as far as I have seen, occur in cases which must be placed in a very different category from those with scarlatiniform ones. I have only seen six instances of this kind. Of these I saw two at their own homes at a very early stage of the disease and ordered their immediate removal; three of the patients came in on the day of the onset, and the other developed the small-pox whilst in hospital. I give particulars of these in a tabulated form:—

Case.	Age.	Vaccination scars.			Type of case.	Remarks.
		Number.	Character.	Total area in sq. inches.		
1	28	3	Foveate	½	Modified	A morbilliform, patchy rash on extensor surfaces of limbs, and chest and back; most of the true papules disappeared without vesiculation.
2	26	1	Foveate	¼	Modified	Revaccinated successfully on Nov. 15th; measly rash on extensor surface of arms and legs on Nov. 22nd; true eruption very scanty on Nov. 23rd.
3	15	3	Foveate	1	Modified	An initial measly rash on the extensor surfaces, also on the face. True eruption slight.
4	4	4	Foveate	1	Modified	An initial rash on extensor surfaces of forearms and outer surface of upper arms; true eruption of four spots only.
5	24	4	Foveate	2	Modified	A morbilliform, patchy rash on the extensor surfaces of the arms and legs preceded the true eruption, which was very scanty.
6	26	2	Foveate	1	Modified	A measly rash on the extensor surfaces of the forearms; true papules were exceedingly few.

From the above cases, the character of which, I am inclined to think, must represent the general type of those in which morbilliform rashes occur, it seems that (1) these rashes may be somewhat irregular in distribution, though their most characteristic situations are the face and the extensor surfaces of the limbs, but they do not find their favourite positions in the groins and axillæ as in the cases of other initial eruptions which will be mentioned later; (2) they occur only in discrete cases of a much modified character—the only patient amongst those who suffered from them and whose foveate area was unsatisfactory was, it will be seen, successfully revaccinated a week before the rash. In some old descriptions a "cutaneous efflorescence" is said sometimes to precede the outbreak of the general eruption in inoculated small-pox, and the same was noticed to occur in the very mild cases of the natural disease which became common after the introduction of vaccination. It has been

held that erythematous rashes are characteristic of varioloid. Our experience seems to lead to the conclusion that those of a morbilliform type are characteristic of attacks much modified by vaccination.

3. *Urticarial rashes.*—Urticaria has such specific exciting causes that it would appear desirable from a clinical point of view to treat it separately in this connexion. So far as I have seen no initial rashes of this type are described in the text-books, but I have seen two cases, and heard of others in this neighbourhood, where such a thing occurred. The first was a case of small-pox due to infection introduced into a general hospital. A boy aged ten, in good general health but an in-patient for some eye affection, was seized with pain in the back and head, and the same evening was found to have a temperature of 103. I was asked to look at him and found him to present an urticarial rash on the extensor surfaces of the forearms and legs, in front of the axillæ, and about the groin and lower part of the abdomen. This eruption consisted of large wheals with some inflammatory redness about them, attended by considerable itching, and appearing and disappearing from time to time. From the special situation of this rash and the outbreak of other cases of small-pox in the place at the same time I was able to make a diagnosis that was confirmed by the appearance of the true eruption on the following day. I have since the above seen a similar condition in an unvaccinated youth aged seventeen, who was admitted to the Warrington Hospital with discrete small-pox. In this the true papules were already appearing and the remains of the urticaria consisted of a patch in front of the left axillary flexure only. This came out on the day of the onset, Feb. 10th, the true eruption appearing on the day of admission to hospital, Feb. 12th. It would seem that an urticarial eruption in the situations above described is diagnostic of small-pox. A more generalised urticaria occurring in a person in a house, from which a case of small-pox had recently come, almost led me to a mistaken diagnosis, but was found to depend on dietetic irregularities.

4. *Petechial initial rashes*, as distinguished from the extravasation of malignant cases, I have seen in five instances, all occurring in characteristic situations and all preceding severe attacks of small-pox. I give some particulars of these cases in a tabulated form :—

Case.	Age.	Vaccination scars.			Type of case.	Remarks.
		Number.	Character.	Total area in sq. inches.		
1	24	2	Plain	¼	Confluent	Marked petechial rash about groins and lower part of abdomen. A very severe case.
2	36	2	—	—	Discrete	Had a similar rash to the above and had old lupus scars on the face, over which alone the true eruption was confluent. A somewhat severe case.
3	41	2	Foveate	1	Confluent	A fatal case; there were a few scattered, fading petechiæ about the groins and the extensor surfaces of the arms on admission; these, except for their grouping in these situations, could not be distinguished from old fleabites.
4	24	1	Foveate	½	Confluent	Intense petechial rashes about the hips, groins, lower part of abdomen, axillæ and around the nipples; over these parts the rash was confluent, over the rest of the body it was discrete. Notified as variola nigra, but the attack proved to be mitigated, the patient getting up in a week after admission.
5	24	2	Plain	¼	—	Petechial rash about groins and lower part of the abdomen. This was a fatal case, complicated with broncho-pneumonia.

A petechial rash, then, appears to precede only cases of considerable severity, though not necessarily fatal ones. It will be observed that the vaccinated state of all the above patients was distinctly inferior to that of those in whom morbilliform rashes occurred, if one takes into consideration both the age and the number and character of the scars. In the third of the above instances the discovery of fading petechiæ grouped in characteristic situations certainly suggests the possibility of rashes of limited extent easily escaping observation. The mitigation of the attack of the fourth probably was a consequence of her having been vaccinated in infancy, taking into consideration her age as well as her cicatrices in comparison with the others. In one case of purpura variolosa, which I had the opportunity of observing from a very early stage, it was a matter of interest to note that the extravasations began to appear as petechiæ about the flexures of the groins and axillæ which are the chosen seats of the rashes that have just been mentioned.

I have referred above to a case arising in consequence of infection entering a general hospital. The method of introduction here was of such a kind as to illustrate several points of interest and importance. I am enabled to furnish some details thereof. A man aged twenty-one applied one afternoon about 4 P.M. on account of retention of urine. As he appeared to be very ill he was taken in; his temperature was then 99·4°. On further examination he was found to present a scarlatiniform rash generally distributed. At 6 P.M. the temperature was 100·4°, at 10 P.M. it was 99·8°, and at midnight he died. There was no evidence of stricture; subsequently it was found that a petechial rash had developed about the groins. At the end of a fortnight nine inmates of the hospital, four of them nurses, who came in contact with the above patient or his bedding or clothes were removed to the local small-pox hospital, and about the same time the mother of the man was taken there from her home. Fortunately all of these recovered, but the incident illustrates the extreme difficulty of early diagnosis and of preventing an extension of the disease without vaccination. Retention of urine is a symptom that has been known occasionally to complicate the onset of small-pox and is doubtless an indication of the centres for micturition being involved in that affection of the spinal cord of which pain in the back is probably a sign.

THE DIAGNOSIS OF SMALL-POX FROM OTHER DISEASES.

The greater number of cases of mistaken diagnosis with which I have had to deal have been in patients suffering from varicella. One case, which was of considerable interest, I have reported.[1] Three have since then been admitted, which, on examination, I regarded as being most undoubtedly chicken-pox. They were as follows :—

CASE 1.—A boy aged seven, having three foveate cicatrices of an aggregate area of four-fifths of a square inch. The rash appeared on May 12th. He was admitted on the 13th and found to have an eruption consisting of about thirty pocks on the face, a fair number on the body, and a very few scattered ones on the limbs. Some few of these were umbilicated, but most had the pearly lustre and absence of induration which are characteristic of chicken-pox. There was no fever after admission. He was vaccinated at once, with the result that considerable papules developed at the points of insertion of the lymph, but did not reach the stage of vesiculation.

CASE 2.—A girl aged eleven, said to have been vaccinated, but having no marks. The rash began to appear on May 23rd and continued to come out during the following day. She was admitted to hospital on the 26th, when the appearance presented was very suggestive of varicella, especially on account of the different stages in which the pocks were. She was vaccinated with four insertions of calf lymph. This was attended by complete success, though with the tendency to sloughing so common after the use of animal vaccine, and no sign of small-pox ever appeared. The engraving, which is from a photograph, shows this case very well; the other patient in it was an unvaccinated child five years of age, who was admitted with confluent small-pox, from which, after a severe illness, it fortunately recovered.

CASE 3.—A boy aged four was admitted on May 23rd with what appeared to bear every evidence of being chicken-pox; but as he possessed four foveate cicatrices of a little more than one square inch I deemed it unnecessary to vaccinate him. There was no fever on admission, and the child, appearing to be

[1] Brit. Med. Jour., Feb. 11th, 1893.

quite well, was allowed to get up, the temperature being taken regularly. The original eruption soon disappeared, leaving the usual slight redness about the situation of the pocks, and the child continued in good health until June 1st, on the evening of which day it appeared to be languid, the temperature being 98·6° F. It was accordingly kept in bed and the following notes of the subsequent progress of the case were taken: "June 2nd: Morning temperature 99·8°; complains of pain in the chest and back of the head; face slightly flushed; on extensor surfaces of forearms and outer surfaces of arms a patchy erythematous eruption, having a somewhat irregular, though not shotty, feel to the touch. Evening temperature 102·8°; delirious.—3rd: Morning temperature 100°; the eruption on the arms has gone, but a papule has appeared on the left cheek.—4th: Temperature 99·8°; a slight papular rash on the extensor surfaces of the arms; three papules now show themselves on the face and one on the back of the right shoulder.—5th: Temperature normal. The rash on the arms has gone, but four papules, three on the face and one on the back of the right shoulder, have reached the suppurative stage, a small vesicle with opaque contents now appearing on each." From this time no further symptoms were observed and the child quickly regained its normal condition—one of good health. I believe that this was an undoubted case of modified small-pox in which an initial rash of morbilliform type preceded the true eruption, which latter on the arms was only evanescent. I have included this child amongst the patients with morbilliform rashes given above. The failure of so excellent and recent vaccination to prevent small-pox entirely may conceivably be ascribed to the special exposure to the poison of the disease. The child was in the same ward with confluent cases in all stages. Of the other two cases of chicken-pox, in the first the slight papulation at the point of inoculation is probably an indication of extremely slight susceptibility to vaccinia and of the disease on admission having been really varicella; in the second the success of vaccination affords an undoubted proof of my diagnosis in a patient with whom the third of the series may be profitably contrasted.

The above cases but add to the already strong evidence in favour of the essential difference between variola and varicella—a distinction so easily to be put to the test by vaccination. Three other cases of considerable interest have been admitted whose disease was not small-pox. The first was a case of acne, chiefly on the forehead and upper arm, which followed successful revaccination after a month's interval, some constitutional disturbance due to an axillary abscess consequent on vaccination aiding in the formation of a mistaken opinion. The second was in a woman subject to chronic rheumatism, who on admission was found to have erythema nodosum as well as numerous small papules on the arms. She was at once revaccinated with success, the eruption disappearing in a day or two without any sign of vesiculation. This seems either to have been a part of rheumatic origin or to have been a salicylate rash, for she had been taking large doses of the drug. The third was the case of a strong and healthy man, with vaccination marks of good quality on both arms. On coming into hospital he was found to have a temperature of 103°, a foul tongue, and on the arms, thighs and legs numerous fairly large papules, somewhat oval in shape and livid in colour. These were unattended with itching and devoid of any sign of vesiculation. There was no history of an onset such as small-pox generally has. The progress of the case during the next two or three days helped to increase the doubts I already had and he was accordingly vaccinated, an operation which I repeated in two days, but which was on neither occasion attended with success. The rash, however, was gone in less than a week, leaving only a slight desquamation, and the patient at the same time regained his ordinary health.

Whatever the reason of my want of success in vaccinating this patient, what followed shows that one should not be in a hurry to act on one's opinion in such a case. I became now inclined to believe that after all he must have had a very modified kind of variola and he was discharged a fortnight after admission. He returned in a few days with an attack of small-pox which, though appearing likely to be of a severe confluent type, proved abortive and fortunately, as far as I can ascertain, caused no other attacks in the town. I do not feel prepared to give any name to the illness with which this man was admitted and which led to a mistaken diagnosis.

Warrington.

ACUTE PERICARDITIS, ENDOCARDITIS AND PNEUMONIA:

COMPLICATIONS OF A CASE OF ACUTE RHEUMATISM; RECOVERY.

BY N. HAY FORBES, L.R.C.P. LOND., M.R.C.S. ENG.,
FORMERLY ON THE MEDICAL STAFF OF H.M. ARMY.

IN THE LANCET of July 22nd Dr. D. B. Lees discusses the treatment of pericarditis in an interesting and instructive paper, the chief points of clinical and practical interest being, firstly, "the proper treatment" of the disease; secondly, the importance of bearing in mind "the seriousness of the results of pericarditis in children and young adults"; and, lastly, the therapeutic value of "the local persistent application of cold" to the region of the heart. The following case presents certain features both of clinical and diagnostic interest, which I shall endeavour to demonstrate, directing attention to the following points in particular: (1) an almost entire absence of joint symptoms; (2) pneumonia, an additional complication, increasing the gravity of the case; (3) dilatation of both ventricles of the heart, being more marked in the left than in the right; (4) dyspnœa, which was never very urgent; (5) enlargement of the thyroid gland; (6) the differential diagnosis between pericarditis and commencing aortic disease; and (7) treatment, in which the cardinal points were absolute rest, counter-irritation, alkalies, salicylates, digitalis and a nutritious dietary.

On March 30th, 1892, I was called to see the patient, a thin, delicate-looking girl sixteen years of age. She was suffering from pains in the chest and shortness of breath on exertion; her face was swollen, the result of a carious tooth. Her parents are living and fairly healthy, the father being subject to bronchitis in the winter; the patient is one of a large family, some of whom present a typically strumous aspect. The patient has not had any serious illnesses beyond those incidental to childhood. In December, 1892, she had an attack of rheumatism in the joints, but was not confined to bed, continuing at her daily work. Since then she had enjoyed fairly good health until the middle of March, when she had a chill whilst hard at work house-cleaning. She also stated that she had been feeling out of sorts, had slept badly, and had suffered from weakness and aching of the limbs during the previous week. The catamenia appeared at the age of fifteen; they were irregular; they last appeared the day before she was taken ill (March 29th). The bowels apparently were quite regular. The tongue was moist and clean, with the exception of the back part, which was furred. The appetite was extremely poor. The complexion was pale, sallow and earthy looking. The skin was smooth, hot and dry. The feet were cold and clammy. On examination the chest was resonant over both lungs anteriorly, expansion being fairly good. The breath sounds were harsh and somewhat wavy in character. No crepitation or other abnormal sound was audible. The area of dulness of the heart was increased, extending from the level of the third interspace to the level of the sixth rib; its action was rapid and tumultuous, the rhythm was cantering, the impulse was diffused and the apex beat was indistinct. The sounds in general were muffled. Over the centre of the cardiac area a diffused, harsh, rasping to-and-fro friction sound was distinctly audible, being apparently intensified towards the apex, the beat of which was systolic in rhythm. This rub could be very perceptibly felt on light palpation in the fourth interspace half an inch to the left of the manubrium sterni. There was no definite bulging of the præcordial region or appreciable widening of the intercostal spaces. The pulse was 120, rapid and compressible but regular. The temperature (in the mouth) was 103·2° F. The urine was of a pale orange colour, being slightly turbid, but without deposit; acid; its specific gravity was 1025; there was no albumen. The patient was put to bed in a well warmed and properly ventilated room. Linseed-meal poultices to the left side of the chest, a hot-water bottle to the feet and a mixture of salicylate of soda, tincture of aconite (minim doses) and tincture of orange, to be taken every four hours, were ordered. The knees and ankles were swathed in cotton-wool and flannel bandages. The following day the temperature was 103° and the pulse was 112. At the heart's apex a soft mitral systolic bruit was audible. The patient had not slept much owing to the pain she suffered. The bowels had acted.

April 1st.—The pulse is 104. The pericardial friction sound is less pronounced, but the endocardial bruit is quite distinctly discerned and can be traced in the direction of the mid-axillary line. The patient has slept better; the skin is perspiring. Nourishment—milk, plain and with soda-water—is given at regular intervals.

2nd.—At the base of the heart an aortic systolic hæmic bruit is heard. A mixture of bicarbonate of soda, bicarbonate of potassium, iodide of potassium, tincture of nux vomica and compound tincture of cardamoms, to be taken every four hours, was prescribed, the bowels acting freely with the aid of salts and senna. A cantharides plaster was applied over the middle of the præcordia with markedly beneficial effect.[1]

10th.—The temperature is 102°. The patient does not suffer so much pain in the chest and at present there is no urgent dyspnœa; she is resting comfortably in the horizontal position. Over the left cheek an erythematous blush has appeared; there is no herpes. The respiration (22 per minute) is laboured. The pericardial rub can be more distinctly heard and its limits more accurately defined.

13th.—The patient has slept better during the last two nights. There is some symmetrical lateral enlargement of the thyroid gland, the swelling being roughly about the size of a small orange, but not painful nor tender on pressure. On examining the interior of the throat nothing abnormal can be detected. The cardiac dulness extends now from the level of the second interspace to the level of the sixth rib, measuring laterally from 2½ in. to 3 in. The temperature is 102°. The face is flushed. The dyspnœa is somewhat increased, but not to the extent of orthopnœa. There is no irregularity in the pulse. The pain in the joints is very slight. She perspires, but not profusely.

15th.—This morning the patient was seen in consultation with Dr. Ranking, to whom I am indebted for some valuable suggestions. It was then noted that the cardiac dulness could be clearly mapped out, its shape and daily condition having been carefully watched. It extended laterally into the left flank and in front (to the right) as far as the centre or nearly to the right margin of the manubrium sterni. There was unmistakable evidence of dilatation of the left ventricle with inflammation of its endocardium and a systolic mitral bruit. The right ventricle was dilated, but not in a marked degree. The præcordial friction sound was quite distinct, coupled with signs of sero-fibrinous effusion (hypopericardium). At the left posterior base, a finger's breadth below the scapular angle, the percussion note was dull; there were impaired resonance and diminished expansion. Several fine moist crepitation râles were audible. There were the general physical signs of pneumonia in the middle lobe of the left lung—a group of signs rendering the differential diagnosis between the dulness of the pericardial effusion and that of pneumonic consolidation somewhat difficult to diagnose. The breathing was hurried; there was scarcely any typical rusty expectoration. The patient had been taking twenty-grain doses of salicylate of soda with a teaspoonful of effervescing citro-tartrate of sodium three times a day and latterly a separate mixture of sulphate of quinine and juice of digitalis. Counter-irritation to the præcordia was continued. The nourishment consisted chiefly of milk with two teaspoonfuls of brandy taken every two hours.

16th.—The patient has slept well. The tongue is moist and coated with brown fur, the skin is cooler. A hæmic basic bruit is still audible and a mitral bruit is heard far into the axilla, the heart's impulse is heaving and diffused.

18th.—The respiration is more tranquil, the dyspnœa is less and the pectoral pain is disappearing. The bowels have acted well. There is an increase in the quantity of the

[1] Cf. Fagge's Practice of Medicine, vol. ii., p. 100.

urine, which is quite clear and alkaline, the specific gravity being 1026, with no deposit and no albumen.

19th.—The temperature is 99·4°, the pulse 90, of good strength and volume, regular and compressible. There is very little cough; the expectoration is scanty, being chiefly frothy mucus. Over the middle of the right lung anteriorly some occasional moist crepitation is audible, and at the level of the third interspace on the left side inspiratory sibilus is heard.

24th.—The patient takes nourishment well, consisting of milk, arrowroot, egg-and-milk and brandy—also barley-water and oranges; she continues to take the mixture of quinine and digitalis, to which some solution of acetate of ammonia, tincture of nux vomica and compound tincture of chloroform have been added. The temperature is 98·4°, the pulse is 86. Percussion of the cardiac area elicits an appreciable diminution in the extent of the dulness.

28th.—The temperature is 98·4°. The patient is progressing satisfactorily. The pneumonia of the left lung is in the stage of resolution. The double mitral bruit at the apex has now a high-pitched, musical character (bruit de souffle). No pericardial friction sound can be heard.

May 10th.—The patient has been taking Easton's syrup with juice of digitalis and liquid extract of cascara. There is considerable improvement in the condition of the cardiac muscle, the systole being more forcible. She sleeps well at night and her appetite is good. There has been no recurrence of pain or return of dyspnœa on movement, but with the object of giving the heart muscle as much rest as possible the patient is kept perfectly quiet in bed. The temperature is 98·2°. The bowels are in a normal condition.

24th.—She was allowed to sit up for a few hours during the afternoon. Her complexion and colour are improved. There is no stiffness in the joints on moving. The catamenia have reappeared.

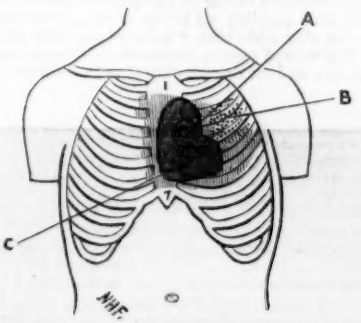
June 1st.—The patient was allowed up after mid-day; she can walk without feeling pain; she complains only of weakness and being tired at times. The mitral bruit persists. The pulse is 80 full, regular and of good tone. There is only a very slight trace of any cardiac dilatation.

5th.—The patient has gone to the sea-side to-day for change of air.

Five weeks after the last date I heard that the patient's general improvement had been maintained, and that her health was quite restored; she was able to take gentle walking exercise, and was gaining in flesh and weight.

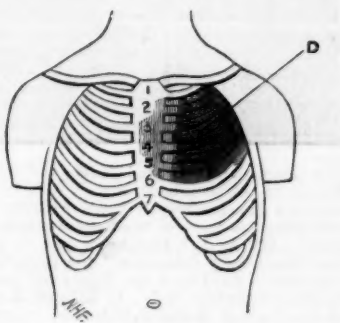
Remarks.—Pericarditis is sometimes the primary and chief manifestation of acute rheumatism in children and young adults, and it is well known that the majority of cases of pericarditis are due to rheumatism. In this instance the diagnostic symptom of rheumatism (acute articular synovitis) was almost entirely in abeyance, and an acute pneumonia of the left lung supervened in the course of the disease as an additional complication, it being difficult at the time to determine whether the inflammatory process attacked both organs simultaneously, or whether it spread from the pericardium to the lung through the visceral layer of the pleura (pleuro-pneumonia). During the past decade (1881 to 1891) the literature of this important subject has considerably increased, and I shall briefly allude to some valuable clinical contributions. In THE LANCET of July 16th, 1881, Dr. W. H. Day recorded a case of "Acute Idiopathic Pericarditis," in which the patient recovered. The salient features were—(1) severe pain before development of physical signs; (2) no articular complication, excepting some obscure tenderness about the ankles, which led to a suspicion of rheumatic fever. With reference to treatment (3) cataplasms and counter-irritation (blisters and sinapisms), with internal administration of salicylic acid and the iodide and bicarbonate of potassium were employed. In 1883[2] Dr. Martin, at the Sheffield Medico-Chirurgical Society, reported a case of pericarditis (history of alcoholism), emphasising the following points: (1) the insidious onset of the disease; (2) the absence of personal history of rheumatism (only rheumatic shoulder pains); (3) the fact "that we may have inflammatory affections of the great serous membranes which must be regarded as a local manifestation of the gouty or rheumatic dyscrasia and not as idiopathic disease"; and (4) the treatment of such cases by counter-irritation (blister), iodide and bicarbonate of potassium and digitalis internally. In the same year Dr. Clifford Allbutt had a case of acute pericarditis with effusion under his care at the Leeds Infirmary, in which paracentesis was performed; the patient recovered. Attention was directed to—(1) the rather doubtful rheumatic nature of the case at the commencement, and (2) the total absence of all joint affections, assuming it to have been a case of rheumatic fever. Dr. S. West,[3] in an interesting paper on a case of purulent pericarditis, in which paracentesis and free incision led to a successful issue, notes the existence of the pulsus paradoxus of Kussmaul, which is said to be produced by the imperfect filling of the heart or by pressure being exerted on the aorta and great vessels. In the discussion o

FIG. 1.



A, Area of cardiac dulness. B, Fine crepitation audible on ninth day of disease. C, Pericardial "friction" sound. Vertical lines indicate dulness on percussion. Dots indicate crepitation.

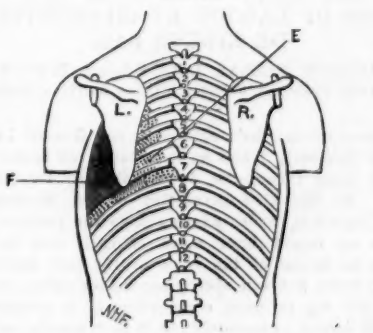
FIG. 2.



ANTERIOR ASPECT.

D, Extent of pulmonary dulness.

FIG. 3.



POSTERIOR ASPECT.

E, Fine crepitation. F, Area of dulness posteriorly.

[2] THE LANCET, Feb. 3rd, 1883.

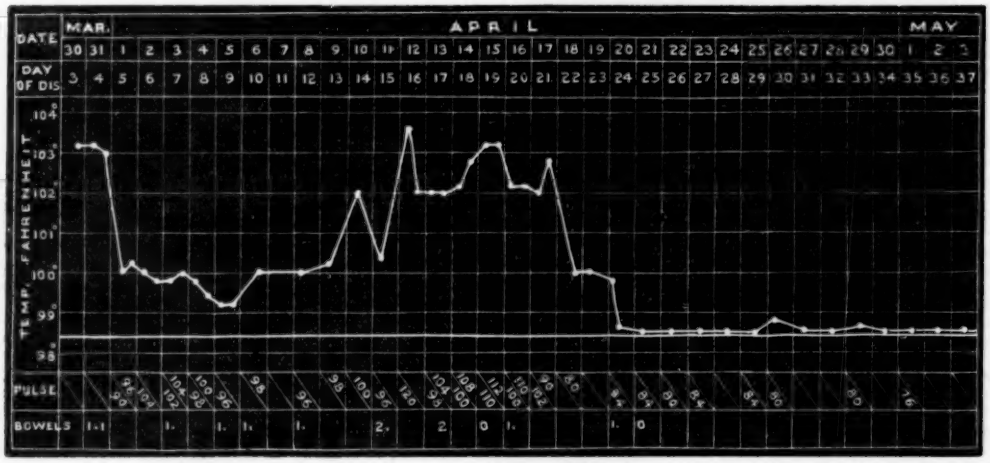
[3] THE LANCET, April 28th, 1883.

this subject the chief danger in pericardial effusion was thought by some to be myocarditis and by others the mechanical effect of the fluid pressure. Dr. Ashby[4] in 1884 wrote an instructive and suggestive article on "Pericarditis in Children," in which he says: "It is important to remember that the inflammation of the pericardium may precede instead of follow the joint pain, that the swelling and tenderness may be confined to one or two joints, like the fingers or wrist, and that possibly no lesion of the joints may take place." He also adds that "pericarditis, both acute and chronic, may extend beyond the serous membrane lining the pericardial sac and involve the pleural surfaces of the anterior edges of the lungs, the mediastinal glands and other organs in the immediate neighbourhood, though it is by no means clear where the inflammatory troubles originate. To this condition of things the name of 'mediastino-pericarditis' has been given." Dr. Ashby[5] narrates a case of pericarditis which was "essentially rheumatic," the pericarditis being followed by painful swelling of the fingers and wrist, accompanied by an erythematous rash. In 1886 Dr. Finny, before the Royal Academy of Medicine in Ireland, reported a fatal case of pericarditis (history of alcoholism), which occurred in a man aged fifty-two.

Before concluding these few and sparse references to the subject of my paper I cannot but quote a sentence from Dr. Drummond's eloquent Address in Medicine at the meeting of the British Medical Association at Newcastle-on-Tyne on Aug. 2nd. Adverting to the causation of cardiac disease, he says: "An attack of rheumatism may damage a valve and leave behind a permanent legacy, but how innocuous that structural change may be, so far as the health of the patient is concerned, so long as his real enemy—rheumatic poison—remains absent is well known to all practitioners, for there can be no doubt that the injured endocardium is very apt to suffer further damage under the influence of fresh rheumatic attacks, however slight; and it is these intercurrent rheumatic accessions, often subtle and unattended by any outward manifestation beyond fever, that are fraught with so much risk." As La Fontaine once wrote, "En toute chose il faut considérer la fin;" and, though as regards the acute phase of this disease and its complications I have affixed the term "recovery" to my case, the possibility of the "permanent legacy" of a damaged valve precludes the use of that term in the truest and most satisfactory sense—"Victrix causa diis placuit, sed victa Catoni."

Tunbridge Wells.

FIG. 4.



A REPORT ON TWELVE CASES OF INDUCTION OF LABOUR BY CHAMPETIER DE RIBES'S BAG.

BY WALTER W. HEELAS, L.R.C.P LOND., M.R.C.S. ENG.,
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DURING a six months' residence at the General Lying-in Hospital, Lambeth, I had an opportunity on twelve occasions of using Champetier de Ribes's bag for inducing labour. By the kind permission of Dr. Herman and Dr. Cullingworth, under whose charge the patients were, I place on record brief notes of each case as fresh evidence in favour of the value of the new instrument, which I doubt not will shortly become the means generally adopted for use in most cases where it is necessary to terminate labour prematurely, as it is a speedy, safe and reliable method. From my limited experience of its use there is little difficulty in its introduction, though for primiparæ, and occasionally in some other cases, it may be necessary to procure a preliminary dilatation of the os by a bougie, tent or Barnes's bag. In the case of restless and nervous patients it is an advantage to have them placed under an anæsthetic and on their backs. When once the bag is in position there will be, as a rule, no further trouble until it is expelled, and the os will be found to be fully dilated. The objection raised, that it not infrequently displaces the head in vertex presentations does not appear to be a very serious one; in those cases where it is displaced to an iliac fossa it is easy before the membranes have ruptured to restore it to its original position by external manipulations on the abdomen even when version of the fœtus, complete or incomplete, has occurred from its use; it is but a step towards one of the recognised methods of accomplishing delivery with the greatest prospect of success to mother and child—viz., by turning—and thus unintentionally aids the operator in his manipulations. A full and lucid description of the bag has been given in papers by Dr. Herman and Dr. Spencer.[1]

CASE 1.—The patient was thirty-two years of age and this was her third pregnancy; her first child was born dead at term; the second was born alive, labour being induced at eight months. She was admitted into the hospital on Oct 21st, 1892, being then eight months pregnant. The pelvis was rachitic; the diameter in the true conjugate was 3⅜ in.; the presentation was vertex. On Oct 21st, at 1 P.M., the patient was anæsthetised and Champetier de Ribes's bag was introduced; regular pains commenced in one hour's time. On the 22nd, at 3 A.M., the bag was spontaneously expelled; at 10 A.M. the os was fully dilated and a large bag of membranes protruded, when it was found

[4] THE LANCET, March 29th, 1884.
[5] THE LANCET, March 29th, 1884.

[1] Brit. Med. Jour., Jan 7th, 1893.

that the head had been pushed aside and occupied the left iliac fossa; bipolar version was performed and the child was born alive; it weighed 5 lb. 12 oz.; the total hæmorrhage amounted to 8 oz. The mother and child did well.

CASE 2.—The patient was thirty-seven years of age; she had had nine children, four being born alive and five dead at full term; the fifth and ninth were delivered after craniotomy. She was admitted on Jan. 1st, 1893, being seven months pregnant. The pelvis was rachitic; the diameter of the conjugata vera was 3⅞ in. At 12 noon Champetier de Ribes's bag was introduced; at 5 P.M., as she had had no pains, two doses of quinine (five grains each) at one hour's interval were given; strong pains followed immediately. Soon afterwards violent retchings and vomiting commenced and continued till the birth of the child. At 11 P.M. the pains were violent and becoming tonic; the patient was very restless and exhausted; the pulse was 120, in consequence of which the bag was emptied and removed. The os was as large as a crown piece; the presentation was a footling; the membranes were artificially ruptured and a foot was brought down and left; the breech was expelled in twenty minutes; there was considerable delay in the birth of the head. The child was dead and weighed 3 lb. 10½ oz. The total hæmorrhage amounted to over two pints. As the uterus was not well contracted an intra-uterine douche of perchloride of mercury solution (1 in 4000, temperature 118°) was given and the uterus supported on the outside for an hour. On Jan. 2nd at 2 A.M. retching recommenced; at 2.30 A.M. it was found that violent flooding had taken place, the bed being saturated with blood; the patient was pale, pulseless and collapsed and in an alarming condition; the uterus quickly responded to the usual stimulants and continued well contracted. After the usual restoratives and an intravenous injection of a pint and a half of normal saline fluid with two teaspoonfuls of brandy added the patient quickly rallied. On Jan. 3rd the temperature was 100° and the pulse 116. She continued to do well with the exception of a rise of temperature to 101·2° on the fifteenth day; she was discharged well but weakly.

CASE 3.—This patient was aged twenty-eight and in her third pregnancy. Her first labour was terminated by craniotomy. Her second labour was induced at six months at the General Lying-in Hospital in November, 1890, by bougie, and took forty-one hours to complete. She was admitted on Jan. 7th and was seven months pregnant; the patient was very rachitic. The diameter of the conjugata vera was 2¾ in. The presentation was vertex. At 12 noon Champetier de Ribes's bag was put in and, owing to the true conjugate diameter being under three inches, two ounces of the fluid were withdrawn after the bag had been filled. Good pains followed every half-hour, gradually increasing; at 9 P.M. there were about six ounces of blood lost; at 9.15 P.M. the bag was spontaneously expelled into the vagina; the os was fully dilated. The patient was rather pallid, the pulse being 130; the membranes ruptured spontaneously. The child was delivered naturally immediately afterwards, but only survived a few hours. The hæmorrhage amounted to 24 oz. The mother did well.

CASE 4.—The patient was aged thirty and in her second pregnancy. One child was born alive at eight months. She was admitted on Jan. 9th, being eight and a half months pregnant. The pelvis was generally contracted; the diameter of the conjugata vera was 4 in. and the os just admitted the tip of the finger; the presentation was the second cranial. On Jan. 12th, at 6 P.M., Champetier de Ribes's bag was introduced. Strong pains at once commenced and the bag was spontaneously expelled in one hour's time, when the pains ceased; there was a large bag of waters. At 8 P.M., after quinine (five grains) had been given, the pains recommenced; at 9 P.M. spontaneous rupture of the membranes took place, when it was found that the breech and a hand presented; chloroform was administered and delivery accomplished with the aid of forceps and blunt hook to the breech. The child was living and weighed 6 lb. 12½ oz.; the hæmorrhage amounted to 8 oz. The mother and child did well.

CASE 5.—The patient was aged twenty-five and in her fifth pregnancy. The previous labours were normal. She was admitted on Jan. 22nd to have labour induced on account of a recent inflammatory swelling to the left side of the uterus and vagina, which it was considered might obstruct labour at term; she was seven months pregnant. On Jan. 22nd, at 6 P.M., a bougie was placed in the uterus; vaginal douches of hot and strong Condy's fluid were given every three hours and three doses of five grains of quinine were administered. On the 23rd, at 7 P.M., as no pains had commenced, the bougie was removed and Champetier de Ribes's bag was introduced; pains followed immediately. At 11.15 P.M. the bag was spontaneously expelled into the vagina. There was a large bag of membranes which was ruptured artificially; the presentation was vertex. At 11.30 P.M. the child was born naturally and living, but died on the following day; its weight was 3 lb. 8 oz. The hæmorrhage amounted to 6 oz. The mother did well.

CASE 6.—The patient was aged twenty-seven and in her fourth pregnancy. In the three previous labours the children had to be destroyed, the first at term and the others at seven months. The mother refused to have Cæsarean section performed. She was admitted on Jan. 25th, being six and a half months pregnant. The patient was a very small and rachitic woman. The diameter of the conjugata vera was 2 in.; the presentation was vertex. On Jan. 26th, at 12 noon, an attempt to place Champetier de Ribes's bag failed, so a small Barnes's bag, followed by a larger one in four hours' time, was introduced. At 6.10 P.M. Barnes's bag was removed and Champetier de Ribes's was substituted and two ounces of fluid were withdrawn, after it was filled. Strong and frequent pains commenced in forty minutes, when the membranes ruptured spontaneously. At 11.45 P.M. Champetier de Ribes's bag was removed; it was then found that the breech presented. Delivery had to be terminated by perforation. The child weighed, after removal of brain matter &c., 2 lb. The hæmorrhage amounted to 7 oz. The mother did well.

CASE 7.—The patient was aged thirty-nine. She had had eight children, all born at full term; only four survived birth, and they died in infancy. With the first and last forceps were used. She was admitted on Jan. 25th at full term. The diameter of the conjugata vera was 3½ in.; the presentation was transverse. At 12.30 A.M. pains commenced, when the membranes ruptured spontaneously. On the 26th, at 12 P.M., the os admitted the tip of the finger; Champetier de Ribes's bag was introduced, which must have been imperfectly done, as it was found in the vagina after seven hours without the os being dilated. On the 27th, at 12.45 P.M., the bag was reintroduced; at 2 P.M. the bag, previously worn, burst whilst in utero and was removed, the os then being as large as a half-crown piece. At the same time there were about four ounces of hæmorrhage. Examination revealed a shoulder, hand, funis and edge of placenta at the os; bipolar version was accomplished and the left leg was brought down and left there. At 7.10 P.M. the breech was born, but the head was jammed; pulsation in the cord had ceased. The head was delivered after perforation. The weight of the child was 7 lb. The hæmorrhage amounted to 14 oz. The mother did well.

CASE 8.—The patient was aged thirty-five and in her fifth pregnancy. She was admitted on Feb. 4th. The pelvis was generally contracted. The diameter of the conjugate was 3½ in. Her left leg was paralysed from infancy. On the 5th, at 10.30 P.M., on failure to introduce Champetier de Ribes's bag, Barnes's bag was put in, followed after twelve hours by one of larger size. On the 6th, at 11 P.M., the os was as large as a half-crown piece; the presentation was vertex. Barnes's bag was removed and Champetier de Ribes's bag was inserted under chloroform, during which the membranes were accidentally ruptured. On the 7th, at 10.30 P.M., the patient complained so much of constant pain and want of sleep that the bag was removed and Barnes's bag again substituted. On the 8th, at 11.30 A.M., the temperature was 99·2° F. and the pulse 104 and irregular. Barnes's bag was removed and chloral was given. On the 9th, at 5 P.M., the os was as large as a crown piece. Champetier de Ribes's bag was reintroduced, followed by effective pains. On the 11th, at 1.15 A.M., the bag was expelled spontaneously, after 2 oz. of fluid had been withdrawn. Natural delivery followed in fifteen minutes. The child was dead; its weight was 3 lb. 7 oz. The mother did well.

CASE 9.—The patient was aged thirty-seven and in her eighth pregnancy. She was admitted on March 4th on account of hæmorrhage, which commenced a week previously; two days before and on the day of admission the patient stated that she had lost over two pints. She was seven months advanced in pregnancy. She was anæmic; her pulse was fair; the os was patulous; the cervix was soft; the

presentation was vertex. The placenta was not felt per vaginam. On March 4th, at 9.15 P.M., Champetier de Ribes's bag was introduced and strong pains at once commenced. On the 5th, at 4.15 A.M., the bag was spontaneously expelled. At 4.30 A.M. the child was born naturally and alive; its weight was 4 lb. 3 oz. The hæmorrhage amounted to 16 oz. The mother and child did well.

CASE 10.—The patient was aged thirty-seven and had had eleven children; of these five were born dead and one alive at term. Labour was induced five times, in three of which a living child was born, but they died soon after birth. She was admitted on March 9th, being seven months pregnant. The pelvis was rachitic; the diameter of the conjugata vera was 3 in.; the presentation was vertex. On the same day a bougie was introduced, in doing which the membranes were accidentally ruptured; the bougie was expelled after ten hours. On March 9th, at 11.20 A.M., Champetier de Ribes's bag was introduced, followed by pains every twenty minutes. At 9.30 P.M. the bag was spontaneously expelled, when there was slight hæmorrhage. A shoulder and edge of the placenta now presented at the os, the head occupying the left iliac fossa. The child was turned and born alive, but died in a few hours; its weight was 3 lb. 15 oz. The hæmorrhage amounted to 10 oz. The mother did well.

CASE 11.—The patient was aged forty-six and in her first pregnancy. She was admitted on March 14th, being eight and a half months pregnant, for induction of labour on account of several small fibroids in the uterine wall, varying in size from a filbert to an orange. On the same day at 10 P.M. the foot and funis presented; a bougie was introduced and hot douches containing a considerable quantity of Condy's fluid were given three times a day. On the 15th, at 11.30 A.M., pains commenced; at 10.46 P.M. the membranes ruptured spontaneously. The os was the size of a crown piece. The bougie was removed and Champetier de Ribes's bag was inserted. Strong pains at once commenced. At 11.55 P.M. the bag was spontaneously expelled; the os was fully dilated; the feet were brought down and the after-coming head was delivered by forceps. The child was stillborn and weighed 6 lb. 8 oz. The hæmorrhage amounted to 10 oz. On the first day of the puerperium the temperature rose to 101°; on the second day it fell to 100°, after which it fell to and remained at normal. There were some pain and tenderness over the uterus for the first few days after delivery, but this disappeared and the patient was discharged well.

CASE 12.—The patient was aged thirty-seven and in her twelfth pregnancy. She was phthisical and at full term. The membranes had ruptured spontaneously on April 6th, the day before her admission. The presentation was the breech. On the 9th, at 11.30 A.M., Champetier de Ribes's bag was put in; good pains commenced in one hour's time. At 7.30 P.M. the bag was spontaneously expelled; at 7.35 P.M. the breech still presented and a living child was born naturally, its weight being 4 lb. 4 oz. The hæmorrhage amounted to 6 oz. The mother and child did well.

An analysis of the above shows that in eight cases the bag was used to induce labour for contracted pelvis: in one for fibroids of the uterus, in one for an inflammatory swelling around the uterus and vagina, in one for accidental hæmorrhage, and in one for premature rupture of the membranes. In five cases a bougie or Barnes's bag had been previously inserted. In two cases a vertex presentation was converted into a breech; whilst in two others the head was displaced towards an iliac fossa. It will be observed that in every case, with one exception (Case 8), delivery was completed within twelve hours of the introduction of the bag. In Case 3 there was alarming post partum hæmorrhage, but there is no reason to attribute this to the use of the bag. In Case 7 the bag burst whilst in position, but no harm resulted; the bag was distended (as in each case) with perchloride of mercury solution (1 in 4000). Case 8 was the least satisfactory; altogether the bag was in position for forty-four hours before full dilatation of the os was brought about. This is explained by the fact that, although there was considerable continuous pain referred to the abdomen, there was a comparative absence of regular labour pains. The patient's previous labours were tedious. She had had infantile paralysis, which may have had some influence. From the table below will be seen at a glance the time taken between the introduction of the bag and the commencement of pains, the expulsion or removal of the bag and completion of delivery respectively; also the time between the expulsion or removal of the bag and delivery.

Cases.	Pains commenced after introduction of the bag.	Bag expelled.	Delivery after introduction of the bag.	Delivery after expulsion of the bag.
1	1 hour.	5 hours.	12 hours.	7 hours.
2	5 hours.	†11 hours.	11½ hours.	½ hour.
3	½ hour.	9½ hours.	9½ hours.	Immediately.
4	Immediately.	1 hour.	3 hours.	2 hours.
5*	Immediately.	4½ hours.	4½ hours.	½ hour.
6*	40 minutes.	†5½ hours.	6 hours.	½ hour.
7	Bag burst.	—	—	—
8*	—	First time. 12 hours.†	—	—
,,	—	Second time 32 hours.	32 hours (after second introduction).	½ hour.
9	Immediately.	7 hours.	7½ hours.	½ hour.
10*	20 minutes.	10 hours.	10 hours.	Immediately.
11*	Immediately.	70 minutes.	70 minutes.	Immediately.
12	1 hour.	8 hours.	8 hours.	5 minutes.

* Where an asterisk is used a bougie or Barnes's bag had been previously inserted temporarily.
† Bag removed.

Wokingham.

A CONTRIBUTION TO THE PHYSIOLOGY OF FEVER.

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CASES of definite and sharply defined lesions in important areas of the cerebrum are of so comparatively rare occurrence that the following case is perhaps worthy of note, and more particularly on account of the important bearing the case has on recent researches with regard to heat centres and the physiology of fever.

A female aged two years and eleven months was admitted into the Evelina Hospital under the care of Dr. Nestor Tirard, to whom I am indebted for permission to publish the case. Six months before admission the child had a fall on the back of her head and had not been well since. She was languid and fretful and had considerable constipation. Fourteen days before admission the constipation became worse and had to be treated, no motion having been passed for five days. Six days before admission the patient began to pass urine and fæces involuntarily and had a convulsion the day before admission at 5 P.M. This commenced in the left hand and arm and rapidly spread to the right, being accompanied by convergent strabismus. After this fit the child became unconscious and the head was retracted. There had been a slight amount of vomiting three days before admission. On admission at 4.45 P.M. on Feb. 15th the child was comatose, with irregular breathing, rigid limbs and marked retraction of the head. Convulsive attacks occurred frequently, the arms being most affected and the left more than the right. The face was very flushed, and the skin was dry and hot. The eyes were half closed and no strabismus was present. Ophthalmoscopic examination of the eyes showed no optic neuritis. The temperature was 101°F.; the pulse was 108, good and regular; the respiration was 48. From the appearance of the child and the above symptoms meningitis was diagnosed, probably tuberculous, for negative reasons, as no cause for acute meningitis could be found. The temperature gradually rose: at 9 A.M. it was 103°, at midnight 103·8°, at 1 A.M. 104·2°, and at 2 A.M. 104·8°; at 3 A.M. it fell to 104°. The child became very pale and the pulse was hardly perceptible. After this the temperature rose steadily until 4.45 A.M., when the child died, the temperature in the axilla being 108·2°.

Necropsy, twelve hours after death.—A few scattered tubercles

were found in the lungs, liver, spleen and kidneys, but otherwise the organs were healthy. In the skull no evidence of bone mischief or middle ear disease was found. The brain was generally congested, the dura mater being adherent to the cortex at one place over some tubercles about the right fissure of Rolando. At the base there was considerable purulent effusion, with lymph glueing together the adjacent parts of the fissure of Sylvius on both sides and all the prominences at the base of the brain. Numerous small grey tubercles were scattered about the vessels in the fissure of Sylvius and the base. On the right ascending frontal and parietal convolutions in the position of the arm and face centres there was a collection of closely set small yellow tubercles. The area occupied by them was about the size of a crown piece. On the left side in the same situation were a few scattered yellow tubercles, which were not nearly so numerous as on the right side. On cutting into the brain nothing was found until the lateral ventricles were opened, then (as is shown in the diagram) it

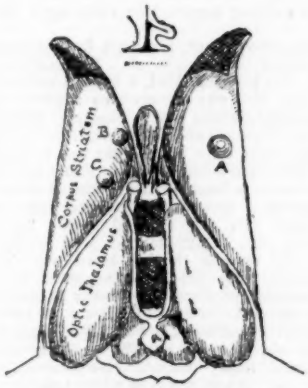

Diagram of Basal Ganglia with Tubercular Nodules A B & C in The Corpora Striata.

was seen that on the outer side of the right corpus striatum there was a nodule about five millimetres in diameter projecting above the surface into the ventricle. On section this nodule was found to be harder than the rest of the brain matter, being obviously tuberculous in character, but not actually caseous. It extended through the white matter of the corpus striatum and just encroached on the caudate nucleus. On the inner side of the left corpus striatum there were two similar but smaller nodules, one anterior to the other, projecting into the ventricle. On section it was observed that these only encroached a little way on the white matter. These three nodules were strictly limited to the corpora striata and touched no other part of the cerebrum. No other lesions were to be found except a small caseous nodule on the left inferior surface of the cerebellum.

Remarks.—May we assume that the rise of temperature was due to the lesions of the corpora striata? According to some recent research by Dr. Hale White[1] there is a thermogenetic centre in the corpus striatum, injury to which by any means will cause a rise of temperature; and there is also most probably a thermotaxic centre in the hinder part of the cortex, injury to which will cause a disturbance of the heat-regulating function generally, resulting in a rise of temperature and a thermolytic centre in the medulla presiding over loss of heat by the lungs, skin &c. In the present case very definite lesions existed in the corpora striata and considerable injury must have been done to the nervous tissue around these lesions. The tubercles in the cortex might also affect the thermotaxic centre, though the number of tubercles posterior to the fissure of Rolando was small and could scarcely have had much injurious effect. It may be argued that, if these lesions of the corpora striata caused the rise of temperature just before death, they ought to have done so some time before; for we may well assume that the larger tuberculous masses were of older date than the meningitis which caused death. The explanation which meets this theory most adequately seems to be that whilst the child was in good health (though developing tubercle) the thermotaxic centre in the cortex and the thermolytic centre in the medulla were well nourished and had a healthy blood-supply; consequently the regulation of heat by the one and the loss of heat by the other served to neutralise the increased production of heat which was due to the injury to the thermogenetic centre. Now when in consequence of the meningitis the heart began to fail and nutrition generally to suffer the above-mentioned centres suffered in unison and failed to neutralise the increased production of heat by the thermogenetic centre. Of course part of the rise of temperature may be accounted for by the inflammatory process at the base of the brain, and, judging from analogy of other cases of meningitis, this might be accounted for perhaps up to 104° or 105°, but hardly above this temperature. Supposing that we assume the temperature, which at 2 A.M. was 104·8° and at 3 A.M. had fallen to 104°, to have been due to the meningitis solely (and this we may fairly assume, for the very fall from 104·8° to 104° seems to point in that direction), it was precisely at this time that the child became very pale and that the pulse was hardly perceptible. The temperature then began to rise rapidly and culminated at 108·2° with the death of the child. This latter rise may fairly be judged to be due to the impaired power of the thermolytic and thermotaxic centres to neutralise the increased production of heat by the thermogenetic centre.

[1] Journal of Physiology, 1890. Guy's Hospital Reports

THE TREATMENT OF SPASMODIC TORTICOLLIS BY EXCISION OF NERVES.

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CASE 1.—In this case severe spasms, which had been continuously present for sixteen years, were successfully treated by excision of pieces of the spinal accessory nerve of the left side and subsequently of the posterior branches of the second, third and fourth cervical nerves of the right side. The patient was operated upon by me on April 22nd and May 28th, 1890, and was referred to in THE LANCET of June 18th, 1892, and I have fully reported the case elsewhere. I received a letter from the patient, dated May 8th, 1893, in which she enclosed a report written by her brother, who is a medical man, of which the following is an abstract: "1. The patient used to take over two hours to walk a couple of miles and she was quite exhausted and fatigued by the exertion. 2. She had a great deal of pain in the neck. The pain was variable in intensity, but was seldom altogether absent. 3. The spine was gradually becoming curved. At the present date (May, 1893): 1. The patient can now walk one mile and a half up hill and the same distance back. The total time spent in walking this distance (three miles) averages one hour and twenty minutes. She does this without fatigue and in addition to ordinary exercise during the rest of the day. 2. There is no pain in the neck. 3. There have been no spasms whatever since the operations. The spine is now quite straight. As to the present state of the neck, the subjective sensation of the side operated on is quite normal to touch, pain &c. There are no abnormal subjective sensations, such as tingling and numbness, whatever. The patient's power to move the head to either side is good and she can hold the head perfectly erect when she chooses. The habit which she had acquired of leaning her head on one side is gradually being overcome and the conscious effort required to keep the head erect is therefore less. There is no interference with the movements of the arms. The patient can work a light pair of dumb-bells freely and can execute all voluntary movements even with the arm extended above her head. She can take down books from a bookshelf. She is quite well and happy, and she sleeps well on either side at will. The appearance of the neck is quite natural. The operation wounds have not left any noticeable scars and there is no disfigurement whatever." This was the result four years after operation.

CASE 2.—The patient was a man aged fifty-seven who had suffered from very severe spasms of the neck upon both sides for six years and also from an almost constant severe spasmodic action of all the muscles of the face. This case I have also recorded and although I did not consider the

case to be a very promising one for operation the patient was completely relieved from all spasms. Nine months subsequently he was still perfectly well and, in answer to a letter which I wrote to him two years and eight months after the operation, he said: "I have great pleasure in stating that I keep wonderfully well; in fact, I may say I am perfectly cured of the distressing malady on the side of the head you operated upon, but I am sorry to say that the other side of my head gives me very great trouble in the way of jerking, twitching &c." The facts of all the symptoms being cured by the operation on one spinal accessory nerve and the spasms subsequently returning upon the side not operated upon whilst the operated side remains free, seem to me to have a very instructive bearing upon these cases. In this instance it would seem that the central cause of irritation had been progressing, but it is probable that operation upon this side will again relieve the symptoms and, to say the least, will give him a further respite from his troubles. This appears to me to be an excellent result considering the unpromising nature of the case at first. This is the only case of those I have operated on in which there has been any kind of relapse, and as the above remarks show, the patient is very pleased with the benefit which he has derived.

CASE 3.—This was that of a woman aged forty-five, which is referred to in THE LANCET of June 18th, 1892, and was a very obstinate one, the symptoms having continued for fourteen years and gradually increased in severity and extension, in spite of every kind of treatment that was resorted to short of operation. She visited me in May last, more than a year and a half after the first operation, and I found her to be perfectly free from spasm. The only difficulty she had was in respect of the curvature of the spine, which had been developed by the long-continued spasms.

CASE 4.—The patient was a woman whom I referred to in THE LANCET of June 18th, 1892, as being over fifty years of age, but I think I should have been more correct in stating that her age was considerably over sixty. She had suffered from severe spasms for over fourteen years. She was sent to me by Dr. Gowers. Excision of the left spinal accessory nerve relieved the patient very considerably, but I had also to operate upon the posterior cervical nerves on both sides. This patient also visited me in May last, a year after operation, and she was then absolutely free from spasms. In her case it was necessary to cut off the nerve-supply from so many muscles that it has taken her considerable time to regain full strength in her neck, but that is a matter which troubles her but slightly, as it is quite a trifle in comparison with the constant and severe pain and disturbance of sleep which were caused by the very powerful and almost continuous spasms from which she originally suffered.

CASE 5.—This refers to a man aged fifty-one, who was sent to me by Dr. Ferrier. I operated upon the spinal accessory nerve of the right side on Oct. 25th, 1892. This, he stated, gave him great relief, but there was still spasmodic action in the rotators in the back of the neck, which will probably require subsequent operation. It is too early yet to report very fully upon the case.

Queen Anne-street, Cavendish-square, W.

CASE OF

TUBERCULOUS ABSCESSES FOLLOWING THE TREATMENT OF ENLARGED CERVICAL GLANDS WITH TUBERCULIN.

BY C. E. G. SIMONS, M.B., C.M. ABERD., D.P.H. R.C.S. EDIN.

A PALE but fairly nourished boy, aged nine years, came under my care on April 25th, 1891, having been previously treated for tuberculous enlargement of the superficial cervical glands. Five injections of 0·0005 c.c. of tuberculin had been administered at intervals of a week; each injection had been followed by a general reaction, the evening temperature rising to 102° F. The glandular enlargements had apparently been unaffected. His father is alive and healthy and is forty-five years old; his mother died from phthisis aged thirty-five; four sisters and one twin brother are alive and healthy. The enlargement of the glands was first noticed a year and a half before the patient came under my care, and it has gradually and steadily increased. The following were the characters of the enlargements on April 25th, 1891. The triangular space between the clavicle, the sterno-mastoid and the trapezius on the right side was filled with a hard, slightly elastic tumour, which was not adherent to the skin and moved freely in all directions. The surface of the mass was slightly lobulated and irregular in outline; two smaller and similar masses could be felt immediately below the mastoid process on the same side, each being about the size of a pea. No decayed teeth were to be found in the mouth, nor was there any discharge from the ears, and no wound or sore was to be found on the head. Ophthalmic examination revealed a normal fundus, careful search being made for tubercles in the choroid, but with a negative result. No signs of further general or local disease could be detected. An injection of 0·001 c.c. of tuberculin was administered between the shoulders; this was followed by a general reaction, the evening temperature reaching a maximum of 102° F.

The next day the patient, although feeling somewhat languid, was playing in the open air. No local reaction could be detected. On May 9th, 1891, 0·001 c.c. of tuberculin was again injected; this was followed by scarcely any general reaction, the temperature barely reaching 100° F., but the glands became slightly swollen and tender. On the second day after this injection a slight pain was complained of in the palm of the right hand and a swelling appeared which reached the size of a bean in the course of a week from its first appearance; it became painless and hard and no redness was seen over the affected part. No fluctuation could be detected. Simultaneously a similar swelling appeared on the back of the left hand over the middle of the third metacarpus. The bone appeared to be slightly thickened over the proximal two-thirds of its length. On May 16th a further injection of 0·001 c.c. of tuberculin was given. No general reaction followed. No change was noticed in the glands of the neck, but the swellings on the hands became red and angry-looking. No fluctuation could be detected in them. An injection of a like amount on the 24th produced no general reaction. The glands in the neck became hot and tender, the skin becoming red and tense over the anterior portion of the largest swelling. The swellings on the hands were softer but not painful, and no pus could be found by palpation. Injections of 0·001 c.c. of tuberculin were given on June 1st and 8th, but with no apparent result. An administration of 0·002 c.c. of tuberculin on June 15th was followed by a slight general reaction. Fluctuation was detected in both of the swellings on the hands. Permission to evacuate the fluid was refused. On June 22nd the abscesses burst spontaneously on both hands, and discharged considerable quantities of pus. A sinus was left on each hand and on probing a small spiculum of loose bone was found in the left hand, which was removed. The swelling had increased considerably in the neck. The skin was still red over the swollen part, but not so tense as on May 24th; no fluctuation could be detected. An injection of 0·002 c.c. of tuberculin produced no observable effect. Daily injections of 0·002 c.c. of tuberculin were now given until July 1st. No reaction or change could be found after any of these injections. The injections were discontinued for a week and on my next visit (July 7th) fluctuation was detected at a point behind the posterior margin of the clavicular origin of the sterno-mastoid. After some persuasion the father allowed me to aspirate the fluid, and this was accordingly done on July 21st. Half an ounce of thick ropy pus was withdrawn containing little cheesy masses. In these masses the tubercle bacillus was found in great numbers. The bacilli stained fairly well with the Zeihl-Neelsen stain, but some few bacilli were difficult to stain. The pus having collected afresh and to a greater extent I aspirated again on Aug. 5th. Three ounces of it were removed. The pus possessed similar characters to those of the pus removed on the previous occasion. The wounds on the hands had by this time completely healed and scarcely any traces of the previous condition were observable. From this time the swelling in the neck steadily decreased and no further collection of pus took place. On Aug. 10th an injection of 0·0025 c.c. of tuberculin produced no visible effect. The patient was now sent to the seaside and continued to improve rapidly. On May 9th, 1892, the patient was quite well. There were hardly any traces of the original mischief to be seen. The only points noticed were the small scars on the hands and the scars of the aspirating needle

wounds on the neck. The scar tissue seemed healthy; no signs of any enlarged glands could be detected in the neck. On Aug. 25th the improvement was still maintained, and on Dec. 2nd the patient's condition continued unaltered.

The following are some points of interest in this case: 1. The delay in the appearance of the local reaction, which was first noticed when a condition of tolerance to 0·001 c.c. doses of tuberculin was apparently being established. 2. The appearance of swellings on the hands, which developed into abscesses. These might have been due to some latent tuberculous mischief and the thickening of the third metacarpal on the left hand may perhaps justify this conclusion. 3. Tolerance to tuberculin seemed to be readily established. 4. The rapid disappearance of the abscesses after the evacuation of the pus, which in one case at least contained tubercle bacilli. 5. No medical or general treatment beyond that which has been recorded was adopted.

Merthyr Tydfil.

SUBMUCOUS FIBROID TUMOUR OF THE ANTERIOR LIP OF THE UTERUS.

BY SURGEON-MAJOR H. P. DIMMOCK, I.M.S., L.R.C.P. LOND., M.R.C.S. ENG.,

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A HINDOO WOMAN aged thirty-eight years was admitted into the Motlibai Hospital on March 4th with a tumour of large size, extending from the vulvæ. The patient could give no account of the development of the tumour, having become conscious of its presence only the day before I saw her. She stated that for the past three years or so she had suffered from a profuse leucorrhœal discharge, pain in the hypogastrium and back, constipation with a feeling of weight about the rectum and frequency and sometimes difficulty of micturition, with a burning sensation during the act. Menstruation had sometimes been painful and always excessive, lasting for five or six days, and it had been more so during the last three years, occurring at regular intervals. Two or three times during the intervals she had passed dark clots of blood. During the act of defecation she had felt as if there was "something in the abdomen which wanted to come away." Lately she had been experiencing pains in the pelvic region, which radiated all over, and had also felt a hard ball in the hypogastrium, which after a while would disappear with a rolling movement. During the last few months her abdomen had seemed to increase in size, the breasts were hard and painful and she had gradually lost flesh. There was also a constant sensation of nausea and sometimes she would vomit all her food. During the three days before consulting me she had fever preceded by chills and rigors of daily occurrence. The day before I saw her she had much pain in the back and hypogastrium, and the pain occurred at regular intervals, was of a bearing-down character and for about two hours was most violent, shooting down the legs and up the lumbar region, until at last a large fleshy mass was extruded per vaginam during the night and was followed by a watery discharge. Some relatives who were attending to her tried to pull the tumour away, but finding that it was firmly attached they became alarmed and left her alone until the morning, when they brought her to the hospital. Since the expulsion of the mass she had felt a little relief, but she complained much of a dragging sensation and of inability to pass urine. The patient had suffered from ague and bronchitis six years previously, but otherwise had enjoyed good health until two years ago, when she began to lose flesh. Her husband died of dysentery eleven years before. She had never had any children. She was in a fair condition of body but was anæmic. Her temperature was 99·4° F.; the pulse was 108 and small. The respiration was hurried, and the tongue was pale and coated in the centre. The patient seemed to be somewhat exhausted, the skin was cold and clammy, and there was a large tumour hanging outside the vulva. The tumour was hard and conical in shape, being covered by thick mucous membrane, attached by a slender pedicle, and exuded a watery and somewhat tenacious discharge. Its length was eight and a quarter inches, and its circumference at the thickest part was ten inches. After a stimulant had been administered and she had been given a vaginal douche the tumour was carefully examined, and it was then found that the pedicle was twisted and that with it there was some torsion of the cervix uteri, so that the os was occluded and hidden. The cervix was low down and, the sound having been passed, the uterus was found to be somewhat large and its cavity elongated, but beyond the prolapse there was not much displacement. The pedicle was about an inch and a half long, being cord-like and about one-eighth of an inch in diameter. The patient was immediately prepared for operation, the parts being well washed with warm antiseptic lotions and the urine was drawn off. As she was very excitable and unmanageable on account of the tenderness of the parts she was given chloroform. The pedicle was simply ligatured and the tumour cut away. The stump and upper part of the vagina were then insufflated with iodoform, a plug of lint which had been soaked in a lotion of perchloride of mercury (1 in 2000) was placed in the vulva and the patient was put to bed. She was restored to comfort and health. The next day the patient felt great relief; all the pain and dragging sensation had left her. On examination with the speculum the anterior lip of the cervix had become inverted, so that the stump and the ligature were quite inside the cervical canal, about half an inch away from the restored external os. Evidently the anterior lip of the cervix had been greatly stretched and the site of origin of the tumour had been from its inner surface. The tumour, on further examination and section, was found to be hard and composed of fibrous tissue in a state of partial fatty degeneration in parts. It was not traversed by any large bloodvessels, but was covered by a thick mucous membrane, which was fairly vascular. On pressure the cut surface exuded serous discharge.

Remarks.—This is the second tumour of the same kind which has been admitted into this hospital during the past three months. The first one occurred in an aged Parsee woman and was reported to the Grant College Medical Society by Dr. R. N. Khory. It was in a gangrenous state and had been so for days, and the patient was moribund from systemic septicæmia, of which she died within forty-eight hours of admission. The above case is interesting from its peculiar history, for there does not seem to have been much discomfort and the tumour never descended into the pelvis, but had a tendency to float up into the epigastric region. The miniature labour, too, is very graphic. It was, moreover, large for a submucous fibroid.

Bombay.

A FATAL CASE OF URÆMIC COMA OCCURRING AT THE TERMINATION OF THE SECOND STAGE OF LABOUR.

BY EDGAR SWINDELLS, L.R.C.P. LOND., M.R.C.S. ENG.

THE patient was a married woman aged forty years. About eight years ago, immediately after a confinement, she had an attack of hemiplegia. She was unconscious for an hour. On consciousness returning she had facial paralysis (left side), loss of speech and paralysis of the right arm and leg. These paralyses, with the exception of that of speech, disappeared. About eighteen months ago I attended her in a premature labour. She had no bad symptoms and made an uninterrupted recovery. There was no history of syphilis or alcoholism. On March 21st of the present year she was attended by my colleague, Mr. Alfred Huntsman, who has kindly furnished me with the following notes: "On March 21st I was called to see Mrs. ——, who was stated to have fallen down in a fit in the garden. On my arrival I found her seated in a chair in the garden, 'just coming to,' as her friends said. After examining her I asked her a few questions, but receiving no answer, I was informed by the friends that she was dumb, having had a like attack some years ago, which left her speechless. She is a stout woman, of about thirty-six or thirty-eight years of age and is advanced in pregnancy about five months. When I first saw her the face was flushed and the mouth covered with froth; the breathing was stertorous and there were rhythmical movements of the arms and hands. These symptoms, however, were passing off when I arrived and in a few minutes she regained consciousness. Her pulse was slightly over 80 and with a good deal of tension. The heart was slightly hypertrophied,

both sounds were clear, and there was no valvular disease. The tongue was slightly furred and when protruded pointed to the left. This, I believe, is a relic of the former attack. I immediately ordered the patient to bed and took measures to relieve the excessive tension, first by stopping the administration of brandy by the friends and then by prescribing one grain of calomel followed by one drachm of compound powder of jalap, as there was a good deal of constipation. I also prescribed a mixture of bromide of potassium and chloral hydrate and I gave strict orders that she should take nothing but a little milk and soda-water. I saw her the same evening and she was then decidedly better; she was able to slightly raise herself in bed and to make signs to me. The temperature was normal. The heart was acting well; tension was less when I examined the pulse, but was still considerable. She had slept for about half an hour. The next morning she was decidedly better, the tension was much less and the bowels had been well opened. She had passed a large quantity of pale urine; its specific gravity was 1018; on heating with nitric acid I found that from one-fourth to one-third was albumen. I had no means at hand of making a microscopic examination. There was some tension the next morning without any apparent cause, but I found that the friends had again given her alcohol. After stopping the brandy she improved daily, till after about a week or ten days she was able to resume her usual duties. During the latter part of my attendance I ordered her a light diet of milk, milk puddings and fish, and prescribed an iron and digitalis mixture with frequent purgatives, ordering her at the same time to continue both diet and medicine till her confinement." Pregnancy went on to full term; in fact, she was a month beyond her calculated time. On Aug. 6th, at 12 noon, I was called in, as she had been in labour since 6 A.M. I found the os to be fully dilated, the membranes ruptured and the head presenting in the first cranial position. Labour was normal up to the passage of the head over the perineum, when she suddenly became comatose. She was completely unconscious. The breathing was loud and stertorous. The pupils were equal, normal, and acting to light. The teeth were firmly clenched, the tongue was protruding, there was frothing at the mouth and there were slight rhythmic movements of the hands and arms. The pulse was very hard. I completed labour as quickly as I could. The placenta did not separate easily, so I inserted my hand and peeled it off. I gave her at once a draught containing bromide of potassium and hydrate of chloral, of each fifteen grains, but she was unable to swallow the whole of it, so it was repeated in an hour or so, but with a like result. I ordered ice-bags to the head and visited her every two or three hours, adopting an expectant treatment. On the 7th she was about the same. In the evening she slightly regained consciousness. The lochia were abundant. There was no change in treatment. On the 8th, as she did not show signs of returning consciousness and the tension in the pulse was very great, I performed venesection, but the blood was thickened and could not be made to flow at all; so I injected half a grain of pilocarpin, with the result that the tension of the pulse was considerably diminished. On the effect of the pilocarpin passing off, with the return of the hard character of the pulse, I put her under chloroform for an hour or more, giving about six drachms, but dared not keep her under longer as it depressed the heart too much. Her condition remained unchanged and she died on the 9th at 5 A.M.

Barking, Essex.

THE STANFORD UNIVERSITY OF CALIFORNIA.—Founded by the late Senator Leland, Stanford University is reported to be the wealthiest seat of learning in the world, though there are universities and colleges in America which possess enormous revenues. For example, Columbia University has an invested capital of something like £2,600,000; Harvard is not far behind, having a capital of £2,200,000; Yale has a capital of £2,000,000; the California University £1,400,000; and the Johns Hopkins £600,000. With regard to the first-named (the Stanford) the amount of its endowment fund cannot at present be estimated, because the benefactions exist in the shape of property which is constantly increasing in value, so that in course of time the university is likely to be worth something like £40,000,000, yielding an annual income of £2,200,000. Of course the use to which this enormous prospective revenue is to be put is a question which will be far from easily determined.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Procemium.

ROYAL FREE HOSPITAL.

A CASE OF ANEURYSM OF THE ASCENDING PART OF THE ARCH OF THE AORTA SIMULATING ANEURYSM OF THE INNOMINATE ARTERY.

(Under the care of Dr. HECTOR MACKENZIE.)

IN this case there was good reason to believe that the patient was suffering from aneurysm of the innominate artery, and had the patient consented an attempt would have been made to cure it or to arrest its growth by operation. The aneurysm proved, however, to be one of the first part of the arch of the aorta, the whole of which was much diseased, and operation could not have benefited her at all. The case is an important one and illustrates the extreme difficulty in diagnosis occasionally presented by aneurysms at the root of the neck. It reminds us of the case recorded by Mr. H. Morris in which even after dissection it was impossible to make out its true character until the sac had been laid freely open in front and the innominate artery behind.

The patient was a woman who, when first seen on admission to the Royal Free Hospital in December, 1890, was forty-two years of age. She came to the hospital complaining of pain in the right shoulder, shooting down the arm, and of throbbing at the root of the neck. The throbbing had been first observed about eight weeks previously in the supra-sternal notch and then had passed a little to the right. The pain appeared to radiate from the seat of the throbbing in the direction of the right shoulder and ear, and, increasing in intensity, disturbed her sleep at night. On Dec. 14th the right hand swelled and a tingling pain was experienced at the tips of the fingers. On examination it was found that there was a slight but decided swelling over the inner end of the right clavicle, with pulsation in the same situation and in the supra-sternal notch. The right external jugular vein was fuller than the left. The swelling was more conspicuous in the standing than in the recumbent posture. No difference was observed in the radial or carotid pulses. The percussion note was slightly impaired just below the clavicle on the right side. A rather rough systolic bruit was audible over the swelling and conducted towards the shoulder and along the vessels in the neck. A thrill could be felt on placing the hand over the pulsating part. Over the cardiac area a double murmur (systolic and diastolic) was audible, which was more obvious at the apex than at the base. The apex beat was in the fifth space an inch external to the nipple line. Air entered both lungs equally and there was no sign of pulmonary disease. The pupils were equal. There were no dysphagia, no stridor and no affection of the voice. No note was made at this time in regard to the presence or absence of tracheal tugging, which was subsequently observed. The urine was free from albumen and there was no evidence of disease of the abdominal viscera. The history of the patient previously to this illness was comparatively featureless. She had no illnesses during childhood. She was married at nineteen and had a child the following year, who died of bronchitis at the age of eighteen months. She had suffered from indigestion and vomiting from time to time and by a medical practitioner's orders had been in the habit of taking whisky-and-water at night for some years. The catamenia had been regular until about eighteen months previously. Five weeks before the present illness her husband died. He had required nursing for about four months. She attributed her condition to the strain which this involved and it was during his illness that she first noticed the throbbing at the root of the neck. In the family history there was nothing significant except the death from apoplexy of one sister who had been a drunkard. The patient remained in the hospital for about three weeks, after which she was not

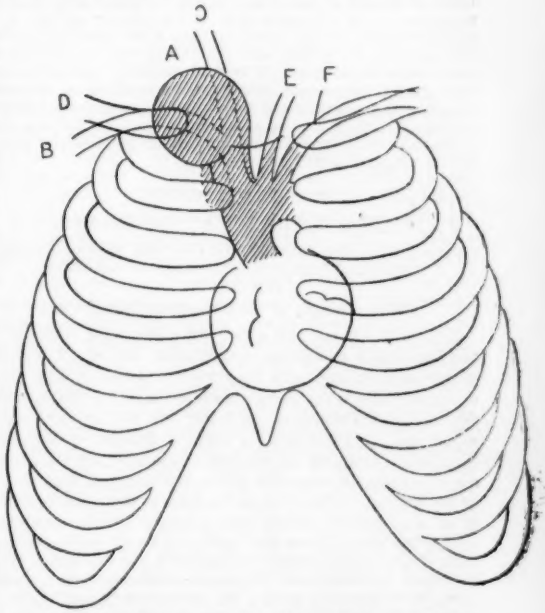
seen again until the following November, when she came to the hospital complaining of cough and pain in the right shoulder. She continued to attend as an out-patient with intermissions until her next admission as an in-patient in April, 1893. The condition in November, 1891, was very little altered from that of the previous year. There was pulsation as before over the inner end of the clavicle and also over the situation of the first and second right costal cartilages. The presence of tracheal tugging was first noted about this time and it could be felt subsequently very plainly indeed. Before long the swelling in the situation of the right sterno-clavicular joint took the form of a definite, rounded, pulsating tumour, which slowly but steadily increased in size. It was impossible, however, to make the patient realise the gravity of her condition. The pain in the shoulder had by this time become less severe and, except for a cough, she maintained that she was in excellent health. Although advised to become an in-patient she repeatedly postponed doing so with various excuses. About the end of 1892 she married for a second time.

After an absence from the hospital of about three months she reappeared in April, 1893, being evidently very ill. She was suffering from bronchitis and had a troublesome cough, with much expectoration and great difficulty of breathing. The tumour was much larger than it had previously been, the increase in size having been rapid lately. Her condition when admitted on April 5th, 1893, was as follows. She was unable to breathe comfortably when lying down in bed and had to be propped up with pillows. She had a troublesome cough, which kept her awake at night and was attended with much expectoration. The cough had occasionally a brassy character. The centre of the globular tumour occupied the position of the sterno-clavicular joint. Its inner edge reached the middle of the inter-clavicular notch. On the outer side it subsided gradually, occupying about the inner third of the clavicle. It measured about 2½ in. from above downwards and 2¾ in. from side to side. The outer border was the least well-defined. The tumour expanded in all directions with each pulsation. The pulsation was communicated to the clavicle. The sternal end of the latter was tilted upwards and was separated to some extent from the sternum. The skin over the tumour was natural and movable. The percussion note was impaired over the upper part of the sternum and for about a finger's breadth on each side of it in the second and third spaces. In the latter situation on the right side there was pulsation but no swelling. The murmurs over the cardiac area were as before and the cardiac dulness was unaltered. The superficial veins on the right side of the chest were more prominent than those on the left. There was no difference in the veins of the neck. The pupils were equal. There was no difficulty in swallowing. The vocal cords moved equally and well. A good deal of attention was paid to the relative strength of the pulse on the two sides, both in the neck and at the wrist; whilst some thought that the left was the stronger, others thought that it was the weaker, from which it seems to be likely that there was very little difference. Several consultations were held with Mr. Battle at this time with regard to operative treatment. The ligation of the common carotid and of the third part of the subclavian was decided on if the patient gave her consent. She, however, declined to have anything done, and as soon as she recovered from the bronchitis she left the hospital.

On July 29th she was readmitted, suffering from general œdema, which had been gradually developing for about a month. Her breathing was very short and was attended with wheezing. Except that œdema rather obscured the limits and size of the tumour there was no change in the physical signs. The urine contained albumen. On Aug. 5th it was noted that the patient was much cyanosed and that she suffered from extreme dyspnœa. Early in the morning she was in great pain and the temperature fell to 96°. She continued to be very ill all day and died during the following night.

A post-mortem examination was made on Aug. 7th. The whole of the thoracic aorta was much affected by atheroma. The arch generally was a good deal dilated. A large aneurysm arose from the convexity of the first part of the arch close to the origin of the innominate artery. As is shown in the diagram, this passed upwards in front of the innominate, having an ovoid shape, whilst a globular diverticulum came off from its upper end, forming the tumour, which presented at the root of the neck. The latter contained a good deal of laminated firm clot, which the main portion of the aneurysm did not. The sternal end of the clavicle projected into the aneurysm and the first rib was eroded in front and formed part of the wall. The innominate artery appeared to be quite normal and passed upwards behind the aneurysm. The aortic valves were slightly thickened, but incompetence had been produced more by the dilatation of the aorta than by actual disease of the valves. The left ventricle was moderately hypertrophied. There was no marked change in the condition of the other organs.

Remarks by Dr. MACKENZIE.—The differential diagnosis of an aneurysm of the arch of the aorta passing upwards by the side of the innominate artery and an aneurysm arising in the innominate itself is a matter of great importance both from medical and surgical points of view, but it is unfortunately one of very great difficulty. The importance of making a correct diagnosis is obvious, for whilst in the case of the innominate aneurysm the ligature of the common carotid and the subclavian may possibly effect a cure, in the case of an aortic aneurysm such an operation would be worse than useless. It is well known that some of the cases



A, aneurysm. B, subclavian artery. C, right carotid artery. D, clavicle. E, left carotid artery. F, left subclavian artery.

which have been reported as being innominate aneurysm, for the cure of which distal ligature has been performed, have been shown on post-mortem examination to be, like the preceding case, pure aortic aneurysms. It has also happened, on the other hand, that cases of true innominate aneurysm have been mistaken for aortic, and on this account the surgical treatment which might have cured or benefited the patient has not been adopted. The physical signs given by the two are practically the same. The situations of the tumour and of the dulness and pulsation in the above case were exactly what would be met with in a case of innominate aneurysm. This is well shown in the diagram. An excellent drawing of a similar case, which like this was during life taken to be innominate aneurysm, will be found in Messrs. Ballance and Edmund's treatise on "Ligation in Continuity" (Fig. 148). One of the points upon which a good deal of stress has been laid as distinguishing the one from the other is the condition of the pulses on the two sides. In the case of the aortic aneurysm passing upwards along the innominate the pulse on the right side should be feebler than that on the left, whilst in the case of the innominate aneurysm no such difference should exist. The equality of the pulses has been specially noted in some of the published cases of innominate aneurysm, but there is not at present sufficient testimony to make a crucial point of it. In the case of my patient my

own impression was that latterly the right pulse was the weaker, but the difficulty of forming a correct judgment was illustrated in the fact that some good observers maintained that the left pulse was the weaker, whilst others held that there was no perceptible difference between them. Sphygmographic tracings were not taken because I believe they are less to be depended on than the impressions derived from digital examination. In a matter of such grave importance it would have been unjustifiable to have pinned one's faith where so much difference of opinion existed. I do not consider that the presence of tracheal tugging gave any assistance one way or the other. In some cases of innominate aneurysm the right vocal cord has been paralysed from involvement of the right recurrent. Paralysis of the right vocal cord is more liable to occur with an innominate than with an aortic aneurysm. The cords were not affected in my patient. The only point which I consider was in favour of the existence of aortic aneurysm as against innominate, apart from the greater frequency of the former, was the presence of aortic valvular disease, indicating the probability of disease of the aorta. Before recommending surgical treatment in a supposed case of innominate aneurysm I should require to feel satisfied that there was no decided difference in the pulses and that there was no evidence of aortic valvular disease. If, to the best of my belief, the case was one of innominate aneurysm, I should then, notwithstanding the possibility of error, invite the assistance of the surgeon, believing it to be a less serious matter to leave a case of innominate aneurysm untreated than to perform the operation in a case of aortic aneurysm.

COTTAGE HOSPITAL, MARGATE.

FRACTURE OF HUMERUS, INVOLVING THE MUSCULO-SPIRAL NERVE; SUCCESSFUL OPERATION TO RELEASE THE NERVE.

(Under the care of Mr. BERTRAM THORNTON.)

INJURY of the musculo-spiral nerve in simple fracture of the humerus is an unusual complication, but of all injuries of nerves associated with fracture it is probably that most commonly met with, though recorded cases of operation for the relief of the results of the injury are not by any means numerous. In some cases a nerve is injured by the same force which produces the fracture of the bone, but the effects are first observed when the splints are removed after union of the fracture; in other cases the cause of the loss of function is of a secondary nature, the paralysis having developed during the formation of the callus, by which the nerve has been slowly compressed, or because of the nerve having been stretched by a displaced fragment or having been pressed upon by the splints used. We have recently published [1] a series of six cases of nerve injuries complicating fractures of the upper extremity, reported by Dr. Deanesley, and we may refer our readers to the account of them and the accompanying remarks.

A farm labourer aged fifty fell off a cart on Dec. 26th, 1892, and was brought to the hospital in a small pony trap. On admission to hospital it was found that he had sustained a compound fracture of the right tibia and fibula and an oblique fracture of the left humerus just below the middle of the bone, the fragments being much displaced. Both fractures united satisfactorily, though there was a large amount of callus at the seat of fracture in the humerus. From the first it appeared that the musculo-spiral nerve had been interfered with, the man complaining of moderate pain at the back of the forearm and inability to move the extensor muscles of the hand. The arm was put up on an inside angular splint with weight extension. On the removal of the splint after union was complete it was found that all the muscles supplied by the musculo-spiral nerve below the fracture were completely paralysed and were already considerably wasted, although sensation was apparently not impaired in the parts supplied by the nerve below the seat of injury. The electrical reaction of the muscles was also completely abolished. As daily friction, shampooing and galvanism effected no improvement it was decided to cut down upon the nerve at the seat of fracture. On April 18th (sixteen weeks after the accident) Mr. Thornton made an incision along the course of the musculo-spiral nerve for about six inches, beginning below at an inch above the external condyle. The nerve was found in dense cicatricial tissue almost of the consistence of cartilage; it was firmly adherent to the seat of fracture for about an inch and a half, but was not actually involved between the ends of the bone. It was impossible to say whether any of the nerve fibres had been lacerated. The nerve was carefully and completely cleared and the wound was sewn up with six sutures, the operation being performed with strict antiseptic precautions. The incision healed by first intention. Two days later tremors of the extensor muscles of the forearm were visible on attempts at voluntary movement. Massage, mild faradaisation and passive movements were ordered on April 27th (nine days after the operation). At first electrical reaction and voluntary movement were feeble; but the arm steadily improved day by day. On July 1st the affected muscles had regained at least 75 per cent. of their original strength, enabling the man to resume his usual employment, with a prospect of still great improvement.

Remarks by Mr. THORNTON.—It was fairly obvious from the first that the musculo-spiral nerve was involved; but whether it was divided or compressed it was practically impossible to say. The frequently noted fact that the sensory functions of the injured nerve were not interfered with was very noteworthy in this case, though it is difficult to give a satisfactory reason for the phenomenon. The rapid return of the muscular function and the general favourable issue of the treatment of this patient are encouragements to resort in similar cases to an early operation with a view to inspect the seat of lesion and, if possible, to remedy it by appropriate means.

[1] THE LANCET, April 15th and 22nd, 1893.

Reviews and Notices of Books.

Bibliografia Italiana pubblicata da Piero Giacosa colla Collaborazione di altri Medici. Torino e Roma: L. Roux e Cia. 1893.

Archivio ed Atti della Società Italiana di Chirurgia. Redatti dai Segretari, Dott. TITO FERRETTI e Dott. TULLO SPAZIANI. Anno VIII., Vol. Unico, con 38 Tavole. Roma: Innocenzo Artero. 1892.

Manoscritti di Filippo Pacini della R. Biblioteca Nazionale Centrale di Firenze. Roma. 1889.

THE republic of medicine—as honourable and certainly as useful a confederation as the republic of letters—has for some time been watching with equal interest and satisfaction the progress which has been made in biology, medicine and surgery by its youngest member—youngest in a political, though very old in a scientific, sense—Italy. The volumes before us, even apart from their historical significance, are in themselves of substantial and independent value, such as would do credit to the favourably constituted and long-established schools of northern and north-western Europe. How much more worthy, therefore, of cordial and sympathetic notice do they not become when they are viewed as the product of a struggling nationality which has regained its footing on the highway of progress after generations of oppression and discouragement, and which, from decade to decade, is steadily remounting to its mediæval standard, when it laid all medical Christendom under obligations as onerous as any which professional science has ever incurred?

Of the three volumes under review we will take the last-mentioned one first, dealing, as it does, with what may be properly regarded as being the bases of medicine—its anatomico-physiological and pathological substructure. A man of the people and born to a life of labour in Pistoia on May 25th, 1812, Filippo Pacini died ten years ago, leaving, as his obituary notice in THE LANCET fully set forth, a bequest of work achieved and service done which recalls the noble traditions of a Casserio or an Acquapendente, a Morgagni or a Spallanzani. His biography, when it is adequately written, will form a most instructive object-lesson in the system and in the

modus operandi of medical education, for it was by steady observation and research—first in histology and then in the functional aspects of physiology and pathology—that he rose to be the authority in diagnosis and therapeutics that he was universally acknowledged to be. From his discovery of the corpuscles of touch and from his practical vindication of the microscope and the armamentarium of the laboratory to his ingenious and solidly-reasoned-out disquisitions on disease—notably cholera—and its remedies his work was an exemplar to his comparatively backward compatriots of the only sure means by which nature can be made to disclose her secrets—an exemplar which was followed indeed by the medical pioneers of other nationalities, but which was something like a revelation to those Italians who still held to ratiocinative tradition and who tried to solve the enigmas of health and disease by persistent adherence to the "high *priori* road." "His first work and his last," said Moleschott in his memorable *éloge* of him, "was a discovery"—a discovery, moreover, which was made under the combined inspiration of that biological and clinical genius which ought never to be sundered. How these discoveries were attained and by what "power of taking trouble," as Carlyle defined genius to be, they were added to the resources of science is lucidly set forth in this *catalogue raisonné* of his lectures and writings, which forms the material of that biography of him which medical literature still awaits. Dr. Aurelio Bianchi, professor of pathology and clinical medicine in the University of Parma, to whom we owe this *catalogue*, is the compatriot from whom the desiderated biography is to be expected—an undertaking which, if we may judge from the brief but vivid and impressive *cenni biografici* by which the volume is introduced, he may well be trusted to carry out most adequately.

"No people in Europe would do better or more brilliant work than the Italians," said an English *savant* who knew them well, "if only their 'staying power' were equal to their intellect." That "staying power," or, as we prefer to call it, "perseverance," is already theirs, as their men of light and leading in the past and the example of others besides Pacini in the present sufficiently prove; and now that the political distractions that have accounted for so much of their comparatively fitful efforts no longer exist we may reasonably look for that steadier and more continuous devotion of their gifts to scientific ends which has hitherto been so hard for them to put in practice. The second volume on our list furnishes reassuring evidence in this direction. It is the official and carefully revised and edited report of the nine sittings, forenoon and afternoon, of the Italian Surgical Society from Oct. 25th to 29th, 1891. The subject-matter of the monographs which were read and of the discussions they evoked is of the most varied character and sets forth in a very favourable light the advance which has been made by Italy, not only in the departments of surgery so identified with her schools as laparotomy, the intervention of the knife in thoracic disease—particularly in tuberculosis of the respiratory apparatus—and the use of the electro-cautery in the removal of fibroid growths, but also in cerebral and cerebellar surgery, and last, but not least, in the surgical branches of gynæcology—hysterectomy, for instance, and the varied treatment of uterine myomata. Under all these heads Italy has little to learn and much to teach—in proof of which we have only to point to Dr. Enrico Bottini's contributions (which are already known to the readers of THE LANCET) and to Professor Francesco Durante's work—which is at once sound, bold and, if we may use the term, artistic—in gastro-duodenal resection and in the treatment of aneurysms—contributions and work which are hardly more instructive than the criticisms applied to them by surgeons of the stamp of Angelo Maffucci of Pisa, Felice La Torre of Rome, and Pietro Ferrari of Bergamo. Another feature in these monographs and criticisms is the evidence of familiarity with British and continental practice which they afford. America, also, is laid under contribution by their authors, and references to transatlantic consultants like Byrne find their place, whilst mention is made of our own countrymen Spencer Wells, John Williams and Lawson Tait in gynæcology, and Lister and Macewen in surgery. It is impossible to enter *au fond* into this bulky volume of over 800 pages, and more especially as much that is distinctively novel in it has already been discussed in our Italian correspondence; but our task as reviewers would not be discharged if we did not accord to it a hearty welcome amongst the worthier contributions to medicine from abroad—a welcome which is none the less appropriately timed owing to the fact that its perusal will enable the profession, not only to appreciate more fully the Italian standpoint in surgery at the approaching International Congress, but also to follow more effectively the discussions in a language in which the bulk of the proceedings in the Sections will be carried on.

Dr. Giacosa's volume is as purely medical as the one which has been just noticed is strictly surgical in its tenour. It is a summary of the output of Italian medicine during 1891 in its several departments of zoology (including parasitology and helminthology), physiology, biological chemistry, pharmacology, histology, human anatomy, pathological anatomy, bacteriology and hygiene. Under each of these heads the editor has had eminent coadjutors, who have helped him in sifting all that was noteworthy and really scientifically or practically serviceable from the less conclusive and intrinsically theoretical work of the twelvemonth; and their combined labour has resulted in a book of reference which is not only interesting and useful in itself but which is also extremely opportune—like its companion in surgery—for the non-Italian participants in next year's International Congress. In this respect it has advantages over its surgical counterpart, as it is eminently portable and gives the outcome of the particular monograph or discussion in a conveniently succinct but sufficiently detailed form. Other advantages peculiar to it are its very complete analytico-alphabetical index of the subject-matter and its list of authors, making reference at once easy and exhaustive under each of the departments it deals with. The volume within brief compass makes the reader acquainted with the most recent views and researches of such men as Albertoni, Ardigò, Bizzozero, Carbone, Celli, Devoto, Foà, Golgi, Gradenigò, Lombroso, Loriga, Maggiora-Vergano, Mya, Mosso, Oddi, Pacchiotti, Pagliani, Pernice, Raddi, Raimondi, Rummo, Sabbatani, Saccarelli, Serafini, Sperino, Tizzoni, Traversa, Vassale, Vinai and Vincenzi—to cite, almost at random, a few of Italy's most meritorious investigators and teachers. It is true that the more practically important of those views and investigations have, through our Italian correspondence and in our editorial columns, found their way into the columns of THE LANCET, being sometimes confirmed and checked or enriched by relative comment; but the reappearance of them in their original form and language is none the less acceptable, especially in view of the coming *rapprochement* in Rome between their several authors and the non-Italian world.

A Text-book of Medicine for Students and Practitioners. By Dr. ADOLF STRÜMPEL, Professor and Director of the Medical Clinique at Erlangen. Second American Edition, translated by permission from the second and third, and thoroughly revised from the sixth, German edition by HERMAN F. VICKERY, A.B., M.D., Instructor of Clinical Medicine, Harvard University &c., and PHILIP COOMBS KNAPP, A.M., M.D., Clinical Instructor in Diseases of the Nervous System, Harvard University &c., with Editorial Notes by FREDERICK C. SHATTUCK, A.M., M.D., Jackson Professor of Clinical Medicine, Harvard University &c. London: H. K. Lewis. 1893.

THERE is no doubt that this is an admirable text-book of medicine, and we must agree with Professor Shattuck

when he says that the appearance of a sixth German edition and the demand for a revised edition of the American translation show that the high estimate formed of this work has been fully justified. It is well printed and got up, has 119 illustrations and consists of 1043 pages, including an excellent index, which greatly adds to its value as a book of reference. We are not surprised to learn that the book is a great favourite in America and that the American translation was already used in June, 1892, as the translators tell us, as a text-book or work of reference in some twenty-eight medical schools in America. Turning over its pages and comparing them with those of a copy of the first American edition we can realise the industry and care that have been exercised in the preparation of a new edition. A good deal of quite new matter has been added, and no pains seem to have been spared in revising and adding to the work so as to make it representative of modern medicine. The chapters on Diseases of the Nervous System strike us as being especially good.

LIBRARY TABLE.

The Journal of State Medicine. Vol. I. No. 5. July, 1893. London: F. J. Rebman.—In an article on the Sanitary Conditions of the Air affected by Soils, Professor Seeley, F.R.S., points out that it is probably not so much the chemical constitution of the air as the conditions of variation in its constituents which influence health, and that it should be towards the variations in the composition of the atmosphere that the attention of the medical officer of health ought to be directed. The prevalence of phthisis is shown to bear no definite relation to the amount of rainfall, the occurrence of the disease being more probably dependent on relative impermeability of soil. The importance of tabulating the results of observation of the distribution of disease upon geological maps is insisted on. Mr. W. J. Price describes the ventilation, draining and lighting of the Houses of Parliament, and Prof. McWeeney contributes a review of recent bacteriological work, dealing especially with Texan fever, and the application of bacteriology to milk supply. This number also contains a full account of the recent application of the Sanitary Institute for a Royal Charter, and of the failure of the deputation to induce the Secretary of State for Scotland to reverse his decision to permit county medical officers in Scotland to engage in private practice under certain conditions. The journal concludes with a summary of the most important prosecutions which have taken place during the quarter under the Sale of Food and Drugs Act, the Margarine Act and the Vaccination Act.

The Indian Medico-Chirurgical Review. Edited by N. H. CHOKSY. Bombay: N. K. Rae and Co. London: Baillière, Tindall and Cox.—This publication has now reached the seventh number of its first volume. The original articles comprise a sketch of the Sanitary Regulations of Pilgrim Fairs by M. B. Colah, M.D.; a Case of Elongated Cervix, Amputation and Recovery; and a case of Tumour of the Anterior Wall of the Uterus by Dr. Khory. There was nothing very remarkable in this operation, save perhaps that the tumour had a peculiar colour, was in a gangrenous state and had a circular depression resembling a prolapsed uterus. It was diagnosed as a fibro-myoma of the anterior lip of the cervix—a rare condition, according to Mr. S. Lee. The regular monthly meeting of the Grant College Medical Society was held on April 11th, when Sir George Birdwood, Sir Guyer Hunter, Sir William J. Moore and Dr. H. Vandyke Carter were nominated hon. members of the society. The Clinical Memoranda need not detain us. The report of the Leprosy Commission in India, which we have already criticised at some length, is concluded this month.

Writings. By J. BAUM PIKE. Nottingham: Norton and Co. 1893.—From his title page Mr. Pike's readers would hardly infer that the "writings" which are to follow would be in verse; but of verse, and nothing but verse, they consist—good, easy, "swinging verse," moreover, such as is not always to be found in "writings" claiming to be written in metre. Living in a great English industrial centre, Mr. Pike is keenly alive to the momentous problems thrown to the surface of society by the seething masses below and he preaches a gospel of humanity and mutual sacrifice, which should be the strongest, soundest and most effective factor in their solution. As specimens of his vigorous, large-hearted thinking and of his flowing, animated verse, we would commend "The Love that Lies Behind us" (p. 5), "Do the Duty that Lies Nearest" (p. 20) and "A Wish" (p. 25). He also gives a fine rendering of a characteristically humanitarian sonnet of Victor Hugo.

Annales de la Société Belge de Chirurgie. No. 1. Bruxelles: H. Lamertin. 1893.—In May last the first meeting of the Belgian Surgical Society was held in Brussels, under the presidency of M. Debaisieuse, with a roll of thirty original members. The volume before us contains the six papers that were read on the following subjects—viz., excision of the entire tarsus for inveterate talipes, trephining for traumatic epilepsy, ligature of the thyroid arteries for goitre, inguinal colotomy, osteo-myelitis of the femur, and the detection of metallic foreign bodies.

De la Cystocele Inguinale rencontrée au Cours de la Kélotomie. Par le Dr. HENRI BOURBON. Paris: G. Steinheil. 1892.—The fact that the bladder may be found in the sac of an inguinal hernia has long been recognised, but it is so rare an occurrence that few surgeons ever meet with it. Dr. Bourbon has made a special study of this condition and has collected eighteen cases of it, which he details in this memoir, and he founds upon these cases certain pathological and clinical conclusions. His search for cases has not been exhaustive, for he makes no reference to any British or American author; but the eighteen cases he gives afford an excellent picture of this form of hernia and his memoir will be very useful for reference. Dr. Bourbon points out that vesical hernia may be due to a congenital deformity or to the viscus being gradually drawn into the hernial sac by some other viscus, with which it has contracted adhesions. Clinically there may be no symptoms to point to such a condition, and without care the bladder when occupying such a position may easily be wounded in operating.

THE LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY.—A warrant has been issued for the apprehension of an Indian oculist, styling himself Kream Bocesh, on a charge preferred against him by the London and Counties Medical Protection Society of maliciously and unlawfully cutting and wounding a patient. It is earnestly requested that information as to any Indian oculist at present practising may be at once forwarded to the hon. secretary of the Society, Dr. Hugh Woods, 11, Archway-road, Highgate, N.

REMOVAL OF HUMAN REMAINS.—At the Consistory Court last week a case was brought before Dr. Tristram in St. Paul's Cathedral for the purpose of obtaining a faculty to enable the applicants to remove certain human remains from under the floor of a church in Lower Thames-street. By the statement of Mr. Arnold Statham, barrister, it would appear that the churches of St. Magnus the Martyr and of other parishes were erected shortly before the Fire of London in 1666, and since that date down to forty years ago bodies had been interred in vaults immediately under the floor of the church. Evidence was given in support of the application. The Chancellor of the Diocese of London said he would inspect the church in order to see whether it were possible that some arrangement might be made between the applicants and those who opposed the issue of a faculty. Meanwhile he was of opinion that the faculty should issue.

New Inventions.

THE RED CROSS AMBULANCE.

MR. JOHN CARTER, of 6A, New Cavendish-street, forwards us for inspection a sample of his new Red Cross Ambulance, which has only recently been brought into the market. The

accompanying illustration will satisfactorily set forth in the rough the parts and properties of this contrivance. A few particulars, however, may well be supplemented, by way of verbal description. The carriage is mounted on half-elliptic steel springs, so that vibration is reduced to a minimum. The bicycle wheels are constructed in the most approved fashion and, indeed, the mechanism of the apparatus would seem to leave nothing to be desired. One advantage of the ambulance is that the material of which it is composed admits of the removal of infectious cases, since its construction, being of light iron, serves to lessen risk of infection. Another important feature is the arrangement of the hood, which is jointed in the same manner as are the hoods used in Bath chairs. We can recommend the device to the notice of all those who are interested in ambulance work.

THE STERILISATION OF SOLUTIONS FOR OPHTHALMIC USE.

THE eye-drop flasks which were recently introduced by Dr. Stroschein of Würzburg possess certain obvious advantages over those in common use. The fact may be mentioned that these bottles were shown at the January meeting of the Ophthalmological Society, but the invention seems to me to deserve the notice of the profession at large. The flask is constructed of thin glass, so as to bear heat without breaking. A pipette fits into the flask and differs from those commonly employed in that it has two bulbs instead of one. The pipette, which is of course traversed by a central channel, is surmounted by an india-rubber nipple. In order to sterilise the contained solution the nipple is removed and the pipette is reversed and inserted into the flask. The whole apparatus is then boiled over a small flame—e.g., that of a spirit lamp—for three minutes. During this process the flask may be held by a wooden clip or it may be supported by wire gauze on a tripod. As soon as boiling point is reached the steam rises from the liquid and passes through the pipette, which is thus effectually sterilised. Thirty seconds after the removal of the bottle from the flame the pipette is inserted in its original position. Should time, however, be a matter of consequence, the bulb may be more speedily cooled by allowing cold water to run over its surface. Finally, the india-rubber teat is replaced and the bottle is ready for use. If the bottle is in constant use the boiling process must, of course, be repeated at intervals of a few days. Repeated sterilisations must of necessity concentrate the solutions. Dr. Stroschein meets this difficulty by adding from eight to ten drops of distilled water to every twenty cubic centimetres of the liquid before it is boiled. Two further points may be mentioned: first, that the name of the contained solution is indelibly inscribed upon the face of each flask; and, secondly, that the bottles vary in colour according to the solution they are intended to contain—thus the bottle for atropine is black, that for cocaine is white, for physostigmine it is red, and for homatropine it is blue. That the process described secures absolute sterilisation of the bottle, contents and pipette is attested by a series of more than one hundred bacteriological experiments conducted by Dr. Stroschein. The flasks are made by Otto Wiegand of Würzburg. They can be obtained in this country from Messrs. Schollar and Simsky, 64, Praed-street, W. A complete set, consisting of four bottles and a tripod, costs 9*s.* 6*d.*; a single flask is sold at 2*s.*

SYDNEY STEPHENSON, M.B.,
Welbeck-street, W. Surgeon to the Hanwell Ophthalmic School.

VACCINATION AWARDS.—Mr. Percy Howard Day, medical officer and public vaccinator for the Stalmine district of the Garstang union, has for the third time in succession been awarded the Government grant for efficient vaccination. Mr. J. T. Roger Miller has received an award from the Local Government Board for public vaccination in the Leavening district of the Malton union.

THE LANCET.

LONDON: SATURDAY, AUGUST 26, 1893.

STRIPPED of crude literalism the mythology and usages of Greece reveal a "wisdom of the ancients" which is instructive to mankind in all ages. Amongst the teachings of such usages there appears to us to be a lesson for our own profession in the torch race of Athens which, commencing at the Temple of PROMETHEUS, terminated in the Prytaneum or Common Hall of the People. The divine fire which PROMETHEUS at the cost of so much suffering procured from heaven was thus symbolically connected by a succession of light-bearers with the vivifying warmth which perennially glowed on the central hearth of the nation. The imagination of PLATO borrowed a telling metaphor from the torch race when he compared the continuation of the species to a "handing on of the torch of life from one generation to another." Our own SHAKESPEARE improved on the Platonic metaphor when he wrote with his incomparable grace,

> "Heaven doth with us, as we with torches do;
> Not light them for themselves."

Many a torch, nevertheless, which has been carefully lighted and nobly held aloft for the illumination of a generation has been quenched by the oblivion of time, to be succeeded by another practically identical though only tardily lighted after a long interval, and frequently in complete ignorance of its predecessor. CHARLES BELL remarks, in an almost forgotten essay on the Circulation, that "science cannot be progressive unless we pay respect to the great men we have lost." This is perhaps too absolute a statement, but that such recognition of past work is calculated to render the progress of science more rapid is, of course, undeniable. Indeed, those great men who stand out from their fellows, like our own HARVEY, owe no little of their prominence to a knowledge of the labours of their predecessors. Greatness, however, may be potential or comparative, and promise, through the intervention of death or other sufficient cause, may never reach fulfilment. The greatness under such circumstances none the less exists although it is not generally recognised. There is not much danger of acknowledged greatness being lost sight of. Harveian and Hunterian orations and other forms of hero worship serve to perpetuate the memory of such; but men of very considerable light and leading may be unjustly forgotten, as Professor VIRCHOW pointed out in his remarks upon GLISSON in his address at the Royal Society. Mr. KEETLEY, writing to us on this subject, suggested that a variation of the theme in the Harveian and Hunterian orations might have its uses. There does not seem, however, to be any necessity for offering incense to others at the shrines of HARVEY and of HUNTER. Why should not those others have their own shrines? Their altars need not be so imposing or their worshippers so numerous as those of the most distinguished, but the votive offering on an upturned stone may serve the same purpose as that which is presented in an imposing fane, and a systematic recognition of the efforts of learned but forgotten men might find adequate and useful recognition without the elaborate pomp of a set oration. The discovery of forgotten knowledge is frequently like the original discoveries themselves—accidental. The human mind in different ages, travelling with diligence over the same ground, is apt to stumble upon old truths and to regard them as being new until special research robs the most recent discoverer of much of his originality by revealing the fact that generations before someone else came to a like conclusion and did his best to impart to others the knowledge he possessed without making much impression. Such is frequently the fate of those who are in advance of their time, and when the mass of their fellows have risen to their own level the intervening period serves to obscure their fame and to minimise the value of their services. There are not many whose names "are writ in water" who reap in a subsequent age the fame of him who used that phrase. That there was nothing new under the sun was the opinion of a man of very considerable attainments; but the lost rediscovered is virtually new and the object of this article is to suggest the more systematic study of such knowledge of the past as appears in the light of subsequent research and thought to have been more or less true and which must therefore be more or less useful.

There can be no doubt, we think, that the cultivation of this scholarly habit would tend to raise the general tone of our profession. Let us foster the learning which adorns a liberal profession and the social estimate of our *status* will approximate more nearly to our desires and deserts. Whilst we do honour to our HUNTERS let us not forget our ARBUTHNOTS. The length of art and the shortness of life—the price of bread and the pressure of competition—are powerful impediments to any abstract dreaming; and it is well, on the whole, that it is so. We do not desire to witness a recrudescence of vapid dilettantism. The age of the gold-headed cane and the leisurely pinch of rappee tempered by the side-shaking "good story," charming as they were in the "good old days," is gone for ever; but between that and the vulgarity of a consuming desire to exalt the crudely practical, and above all to "strike oil," there is fortunately a very considerable distance. Nay, may not the very seizure of immediate benefits retard the full development of the individual? *Declinat cursus, aurumque volubile tollit.* [He stoops him from his high career and hastes to take his guineas.] The useful will in nowise, we consider, be hindered by the more leisurely scholarship which is proper to a liberal profession, and we are not at present so much considering culture in general as a knowledge of the thoughts and actions of our brethren in past generations. Without making any impracticable demands in this respect, we are disposed to believe that the devotion of more of our leisure to a study of the teachings of the more or less "great men we have lost," and especially to those of the *less* great, but always Masters amongst our predecessors, who are most apt to be forgotten, will be found to redound to the immediate advantage of the profession. It is calculated, moreover, to satisfy a peculiarly human instinct akin to that of immortality—namely, our being held

in remembrance by those to whom we would fain hand the lighted torch of dearly purchased knowledge when we ourselves drop exhausted at the termination of our course.

THE best features about the question of alcohol are the universal recognition of its importance and the earnestness with which it is everywhere discussed. Those who hold extreme opinions may not be satisfied with the progress of truth on this subject. They would dictate, like another MAHOMED, to the world as if we were not living in the nineteenth century and could still be ruled by dogma. This universal interest in the question of alcohol prevails not only in the political sphere, where it turns the scale of elections and sometimes decides the fate of Ministries, but in the scientific sphere—that is, the medical—where men see its effects, both physiological and pathological, as in no other region of observation or experience. Obviously no class of men see so much of the inward working of alcohol, not only on the human body and its individual tissues but on families, as the medical man does, and especially the general practitioner, whose unhappy lot it is too often to watch some of his best clients fall from honoured positions into dishonoured ones, to trace the gradations of degeneration in health and morals in the parent and to see in the offspring obvious disadvantages and weaknesses for meeting the duties and the temptations of life. This unique position of the medical man certainly imposes on him a high responsibility which has been fully recognised, and never more so than in recent years, when the men of most "light and leading" amongst us have borne the strongest testimony to the harm done by alcohol in quantities which our forefathers with their "three bottles" would have scorned, but which men and women till then regarded as moderate. The late Dr. PARKES—a name never to be mentioned by medical men without affection and pride—was one of the first who seriously undertook to show how small was the quantity that could be *used* in the human system with advantage even by men whose hardy life in the open air reduced its harmfulness. Then followed the Lords' Committee with the evidence of Sir WILLIAM GULL, Dr. SANDERSON, Dr. LAUDER BRUNTON and others. Not less potential has been the quiet influence of such consultants as JENNER and THOMPSON and CLARK—men of unbounded experience, not only amongst the ranks of the poor who drink bad ale and perhaps worse spirits, but amongst the classes who can command the choicest wines and matured spirits. The one consistent note in the advice of all these authorities has been moderation—extreme moderation. In all intelligent society not only has drunkenness decreased, but the consumption of strong wines has diminished, and the restriction of the use of alcohol to meal-times has become more common.

These real gains are not enough to satisfy everyone and, of course, are sadly inadequate in the judgment of the extreme teetotaler, who would like an unmitigated curse to be pronounced on alcohol and its use to be absolutely interdicted. He would exclude it even from medical use and cause it and its very name to be banished from the lips of men. When a medical man, with the judicial impartiality and scientific accuracy of his profession, ventures to say a word in favour of the agent, the teetotaler is apt to lose self-control and denounce the man who is as sincerely convinced of the evils of alcoholism as he is, but differs from him as to the way in which they should be met. Sir DYCE DUCKWORTH, as a devout member of the Church of England Temperance Society and a thoughtful physician, has lately seemed to feel it his duty on several occasions to traverse the extreme position of the teetotalers. His last effort in this direction appears to have been particularly irritating to the really good people who believe two things—first, that it is possible by legislation to stop all traffic in intoxicating drinks; and, secondly, that by doing so society would be transformed and a kind of millennium would be initiated. Sir DYCE DUCKWORTH summarised his conclusions in his recent speech at the Hague on the physiological effects of alcohol on the human organism in the following propositions:—

(1) That it had not been proved that the moderate use of alcohol was hurtful to the inhabitants of Europe and was necessarily prejudicial to civilised nations.

(2) That the most enlightened nations had, as a rule, made use of alcoholic liquors.

(3) That there existed no enlightened testimony to show that the moderate and simultaneous use of alcohol and of sound food could injure the organs of the human body; that, on the contrary, there was ample proof in support of the assertion that such a use was usually beneficial and that the legitimate and rational use of a thing by no means justified its abuse.

(4) That for many people complete and continual abstinence from alcohol was not at all to be recommended and that it was recognised that such a course of conduct employed as an exemplary measure had never, with any people, succeeded in bringing about the disappearance of intemperance.

(5) That the majority of the posterity of drunkards and of persons of an ill-balanced nervous system would do well to abstain altogether from alcohol, or at least before partaking of it to consult a competent and experienced physician.

(6) That the use of impure and adulterated alcoholic drinks is attended with many consequences more or less disastrous and that the extreme physiological limit which the individual constitution can support ought rarely to be reached, most certainly not passed.

(7) That the young should be instructed, as part of their education, to recognise the proper and legitimate use of alcohol and to moderate and subjugate their appetites.

We learn that as Sir DYCE DUCKWORTH descended from the tribune there was "a slight applause, mingled with hissing." This is just the proportion of praise and blame for such sentiments which we should have anticipated from such an audience, especially when the sentiments proceeded from one whom, with Canon LEIGH, the congress had just placed in the position of British vice-presidents. We are not disposed to be too hard on them for giving vent to a disappointment which they could not but have felt, nor can we forbear a kind of sympathy with them in having to hear some blessing where they expected nothing but cursing; and it decidedly admits of argument whether Sir DYCE DUCKWORTH was altogether kind in expressing such sentiments at what was practically a teetotal congress.

The world, after all, shows no danger yet of suffering from the intemperance of teetotalers. Drunkenness still abounds in every land and in all classes. Very few are either suffering or dying from teetotalism. It was stated by the speakers at this congress that, though we spend a hundred and thirty or forty millions on drink even in these times of short trade and distress, other nations drink more than we do.

The delegate of the Belgian Government stated that the consumption of alcohol in Belgium was three times that of France and five times that of England. Clearly there is little immediate risk of the excesses of teetotalers doing such mischief as to necessitate the immediate intervention and contradiction of medical leaders. Having said this much, we would ask the teetotalers whether they have ever considered what a revolution is implied in the suggestions made by Sir DYCE DUCKWORTH and the medical faculty generally. Let us take but one suggestion—that alcohol shall be taken only with food and then in moderate quantity—this advice alone, if followed, would close five-sixths of the public-houses and would abolish drunkenness. It is a change which must be effected rather by promoting intelligence and education than by legislation; but it goes to the very root of the careless and thoughtless drinking of society.

IT is at once a drawback and an advantage that the publication of valuable contributions to science which are contained in the reports of the medical officer of the Local Government Board should be delayed so long after the investigations are completed. It may be deemed a drawback by those who pass from one new discovery to another without reflecting on their import; but it is an undoubted advantage to be enabled to go over the ground again in the perusal of memoirs the gist of which has been made known through one channel or another some time ago. All those who are interested in the progress of medicine should possess a copy of the report which has just been issued,[1] the low price of which is in inverse ratio to the high importance of the work it contains. In the reports of Dr. KLEIN and Dr. SIDNEY MARTIN the pathological nature of diphtheria is established. Dr. KLEIN announces his opinion that the true cause of the disease is the bacillus discovered by KLEBS and LÖFFLER, whilst Dr. MARTIN proves in a convincing manner how the bacillus exerts its baneful influence. As regards Dr. KLEIN'S contribution, it may suffice to say that he has shown that whenever "membranous croup" of the larynx and trachea occurs concurrently with faucial diphtheria, it has the same origin as the latter; but that the same laryngo-tracheal condition unassociated with diphtheria of the fauces may be of two kinds—either true diphtheria or a genuine non-diphtheritic fibrinous inflammation of the mucous membrane—a partial reversion to the older teaching of the non-identity of the two affections which may go far to harmonise the conflicting views on the subject. It may be remarked, however, that clinically there is nothing to distinguish these two forms of primary croup; the distinction is a bacteriological one. Dr. KLEIN further considers that the so-called "scarlatinal diphtheria" is not true diphtheria, but that the latter disease may occur with or without membranous croup after scarlet fever.

Dr. MARTIN'S researches, which confirm and extend those of ROUX and YERSIN on the one hand and BRIEGER and FRAENKEL on the other, are of great interest and originality. They were conducted too on somewhat different lines from those pursued by those investigators, whose work was in the main limited to the products formed by the bacillus in cultures. Dr. MARTIN, however, began by looking in the blood and tissues of subjects who had died from diphtheria for the abnormal constituents which were produced therein by the poison or ferment generated by the bacillus. He thus separated albumoses and organic acids, which he also found in the diphtherial membrane and in the culture media of the bacillus of diphtheria. These albumoses and acids are the expression of the chemical changes exerted in the body by the poison. They were yielded in large amount by the spleen, but were found to be generally distributed The value of this discovery—in a line with the same investigator's work on anthrax—and its bearing on general pathology can hardly be over-estimated. It is the chemical proof of the fact which has been gaining support from other directions (notably, the interesting histological studies of OERTEL), that in the disease diphtheria there is a poison circulating in the blood which acts deleteriously in living tissue breaking up its proteid in a manner analagous to that in which pepsin acts in digestion. The further proof that this is the true explanation was afforded by the demonstration which Dr. MARTIN has made by his inoculation experiments with the albumoses thus formed. He found that in the rabbit the result of such inoculation was to produce fever and depression, and, later, paralysis akin to those symptoms with which we are familiar in diphtheria in the human subject, but that, moreover, the degenerative changes in the nerve fibres were precisely parallel in the artificially produced affection with those originally described by DEJÉRINE in diphtherial paralysis.

The general bearing of such researches as these is to show that what we are accustomed to regard as the effects of the specific virus upon the body are possibly—nay, probably—due to the chemical products formed in the body by the action of that virus, such chemical products being as distinct—in other words, as specific—as the primary agent or its resulting ferment. A new line of inquiry is thereby opened up to investigate infective diseases not only from the side of the bacterial agent, which in some cases still eludes the keen search that is being made for it, but also from the side of the chemical changes wrought in the body itself, and the separation from the tissues of the particular and special products that are the final results of bacterial pathogenic action. There are many other considerations dealt with by Dr. MARTIN that go a long way to show the far-reaching application of what are practically new pathological laws, based upon a line of research that is capable of wide extension.

THERE can be no question that there are many very difficult problems connected with the proper dispensation of gratuitous medical treatment. The whole question is a complex one, but we may take it as an accepted fact that medical charity is abused—that those who can well afford to provide themselves, some altogether, some only in part, with medical treatment do nevertheless manage to obtain it gratuitously at the hospital. That this should be so is in itself a remarkable thing; for it is obviously directly opposed to the interests of the hospital itself, to those of the individual members of the hospital staff and also to those of general practitioners. Probably, considering all the patients

[1] Twenty-first Annual Report of the Local Government Board, 1891-92. Supplement containing the Report of the Medical Officer for 1891-2. Eyre and Spottiswoode. Price 2s. 5d.

treated in hospital as a whole, the abuse only exists in a small minority of cases, but the absolute number of cases in which hospital treatment is improperly obtained, especially in the out-patient departments, must be very considerable. It would seem at first sight that it ought to be an easy matter for the hospital authorities, their consulting physicians and surgeons, and the general body of the profession to prevent the abuse of hospital relief; but in fact it is not easy. We may just glance at a few of the more prominent difficulties in the way. First, there is what may be termed the predatory instinct inherent in a certain section of society—in other words, the desire to get something for nothing, or, if not for nothing, then at the very least outlay. Patients of this class conceal the true state of their circumstances as far as possible and so obtain, by an appeal to some kind-hearted hospital governor, a letter entitling them to receive hospital treatment. As is well known, such letters are generally to be had almost for the asking. Then, again, admissions through members of the hospital staff can usually be very easily obtained. As a rule the general practitioner has only to ask any hospital surgeon or physician of his acquaintance to admit a case for the request to be instantly granted, the surgeon or physician relying on the general practitioner not to send in a patient whose circumstances are such as to render him unsuitable for hospital treatment. We do not say that this privilege is often, but it may be occasionally, abused. The chief evils incidental to the abuse of the out-patient departments are the waste of time, the gratuitous supply of medicine and the fact that for each well-to-do patient there treated so much money is taken out of the general practitioner's pocket. This is bad enough, but the mischief is very much greater in the case of any well-to-do patient who is actually admitted into the hospital; for then, in addition, comes the cost of maintenance and nursing and, worst of all, space intended for the really poor—using the word in the ordinary sense—is rendered unavailable. It is of cardinal importance to remember that our hospitals are crowded and that cases otherwise suitable, both on account of their poverty and of the serious nature of their illnesses, are constantly being sent away because there are no beds. No doubt much remains to be done before the administration of hospital relief can be placed on a satisfactory basis.

But something may be accomplished in the meantime by the various parties concerned. For instance, the public, by whose support most of our hospitals exist, might do much to economise their resources by making some inquiry as to the circumstances of patients before giving away letters broadcast entitling them to hospital treatment. Again, it is quite possible for the hospital authorities themselves to make a practice of instituting such inquiries both as regards out-patients and in-patients. They are actually made at the present time in regard to out-patients at some of the London hospitals. It may be said that inquiries as to the social condition of patients are of little use when once the latter have been admitted into hospital; but it would soon become a matter of common knowledge that they would certainly be made, and this would in itself act as a check on those whose circumstances would not stand the test. Lastly, something may be done by the medical profession itself, both by those members of it who are attached to hospitals and by those who are in general practice, by making due inquiry and recognising, as the majority no doubt do, that sending patients to the hospital involves a responsibility and that if unsuitable cases are so sent a wrong is done not only to the hospitals and to the medical profession but to the really poor for whom the hospitals are intended.

Annotations.

"Ne quid nimis."

THE REPORT OF THE COMMITTEE ON REGISTRATION OF MIDWIVES.

SOME grave questions seem to us to be raised by the evidence of many of the witnesses posing in this matter as representatives of the profession. All will admit the ability and persistence with which Dr. Rentoul has asserted his views in this matter. We do not substantially differ from him in the contention that in the last resort every woman in labour has a right, if she needs it, to the services of a practitioner qualified in the sense of the Act of 1886; but we protest seriously against the accusations which he lightly let fall against members of his own profession. Speaking of certificates of practical midwifery under a registered practitioner, he said (Qu. 372), "But we (*sic*) recognise that in a very large proportion of cases those certificates are forgeries"; and again (Qu. 373), "I should think they must be forged by the medical practitioners." When a gentleman attributes forgeries to his brethren he should produce chapter and verse, neither of which were forthcoming here. Under Qu. 425 he explains, without apology for himself or colleagues, how "we managed" to show a very small puerperal death-rate in lying-in wards by removing dying patients into another and general part of the hospital, so that they did not appear as deaths in the lying-in part. This statement has been indignantly and successfully met by the physician chiefly responsible, and Dr. Rentoul should surely withdraw the charge which seemed to shock the Committee. Dr. Atthill, too, in his ardour of defence of ignorant midwives, used language which we must take the liberty of calling exaggerated. He said, "I believe there is more harm done by the mal-education of the medical student than there is by the practice of absolutely illiterate women, for the ill-educated student will do things which the illiterate woman will not do." At another part he speaks of the "farce of education [of a midwife] under the local practitioner." We submit that such evidence (and we have only quoted a few specimens) given by medical men touching the honour and ability of their own brethren before committees of the House of Commons and sent over the kingdom in blue-books is calculated to do more harm to the profession than can be done by any number of registered midwives. It evidently surprised the Committee—and it certainly surprises us—by its carelessness and its extravagance.

A LONDON "MIRACLE."

WONDERFUL in its measure, but not inexplicable, was the miracle said to have been recently performed in the name of the "Blessed Thomas More" at Chelsea. There is even a certain oddity about the event thus plainly described. In all such matters we must claim a full right of criticism and investigation as to the evidence upon which miracles of this kind are offered for general acceptance. If genuine they should be capable of sustaining the careful and impartial scrutiny of science, which has no interest to serve in the matter and which admits as freely as the

mystic's faith a reality in many marvels and its possible existence in others yet unexplained. What it contends for is the essentially natural character of such wonders. Nature abounds in miracles, and manifestations of energy at first described by the ignorant as supernatural have over and over again been shown to originate and proceed by natural action. Where the test of investigation is avoided or cannot be borne we may depend upon it that there is somewhere a flaw in the work and that it is not what it is represented to be. In the case we have referred to a lady who had for some years kept her bed resolved to have prayers offered on her behalf to the saint already mentioned. Some time afterwards she suddenly showed a desire to rise and without any apparent difficulty walked across the floor. Her case is now quoted by the devout of her persuasion as one of miraculous cure. Several medical men are said to have attested her recovery; it is probable, therefore, that this at least is authentic. It constitutes one of nature's welcome surprises; but we fail to discover in it anything supernatural. As regards the precise character of her illness we have no information, but its whole history is that of a neurosis energised and thus cured by the stimulus of a will inspired by faith. This is the usual course of such cases when so treated. It is in every particular typically neurotic, mainly functional in its perversion, and finally cured, as it was always curable, by the wonderful but as truly simple and natural awakening of recovered hope. By this explanation we have not contradicted the unquestioning mystic; we have only translated his unknown tongue into the scientific vernacular. We have shown that the intelligent Maker of men's minds and bodies is not, even in His obscurer operations, unintelligible.

REFORMATORY AND INDUSTRIAL SCHOOLS.

THERE is much force in the observation with which Colonel Inglis prefaces his report for the present year upon the Reformatory and Industrial Schools of Great Britain—namely, that the work and even the existence of these institutions are very much overlooked by the public, to whom they should be objects of solicitous interest. Society has indeed a greater interest than is commonly understood in the successful administration of this department of school work, which not only provides education for a class of children who stand peculiarly in need of it, but at the same time applies a large measure of preventive repression to crime, and takes the youthful criminal, or the youth of criminal proclivities, in hand at a time when his character is still in process of formation and more plastic to the shaping influences of circumstance than at the later stages of his career. Nor can the work of these institutions be properly appreciated by considering merely what a unique opportunity they have of bringing the saving influence of a well-devised scheme of education to bear upon those who without it are in danger of sinking into the ranks of criminals and castaways. Their record justifies them even more conclusively than does their programme. To speak only of Great Britain, we find here a total of 4721 boys and 665 girls detained in reformatories, and of 14,534 boys and 4444 girls in industrial schools at the close of last year. These are all cases requiring special discipline and treatment, every child being a possible criminal in a very special sense. It is, therefore, highly gratifying to find that the reformatory authorities are able to report that 75 per cent. of their discharged boys and 76 per cent. of their discharged girls are doing well; whilst as regards the industrial schools, in which are cases somewhat less grave than those which are committed to the reformatories, they are able to report 86 per cent. of their boys and 82 per cent. of their girls as doing well after removal from the schools. How serious the case of the reformatory children is may be estimated from the circumstance that the commitments of last year included ten for arson and nine for embezzlement, one for forgery and upwards of 1000 for theft. There cannot be a worthier or more humane task than that of undertaking the educational treatment of such unpromising materials, and the institutions which give back to society 75 per cent. of these youthful miscreants reformed and fitted to take rank as good and honest citizens deserve all the encouragement which the public recognition of their work and the liberal support of their enterprise can afford. It is no doubt due in a great measure to mere want of information that the public does not recognise more adequately than it does the great work which is being silently accomplished by these agencies, and the circumstance that public liberality is not very freely bestowed upon these objects may be at once and fully explained by the existence of an impression that the reformatories and industrial schools are State supported. This, however, is not the case. They receive State aid in the shape of grants and supervision at the hands of an officially appointed inspector, but they are voluntary, although certificated institutions; and the work in which they are engaged is still in such a phase, having in many respects the character of an experiment, that it would certainly be very undesirable at the present time that they should pass under any more direct control of official persons. We commend this great and good work to the attention and sympathy of all our charitably disposed readers, being convinced that they cannot bestow either their sympathies or their benefactions upon any worthier object than this great organisation for the rescue of children and young people in imminent danger of moral shipwreck.

POISONOUS PROPRIETARY PREPARATIONS.

THE indiscriminate sale of powerful poisons under the guise of remedies and tonics for the skin, the hair &c. by unscrupulous and unqualified persons is, or should be, so serious an offence as to demand the promptest action of those in proper authority; but it is to be feared that the provisions of the Poisons and the Pharmacy Acts are too frequently and successfully evaded, and for a period sufficiently long to bring substantial profits into the net of the enterprising vendor. At least there is reason for so thinking, judging from a case which occurred in Dublin last week, when a certain Mrs. Anna Ruppert was charged by the Pharmaceutical Society of Ireland with selling a certain skin specific containing poison and with not being duly licensed under the Pharmacy Act. Evidence was adduced proving that the preparation in question, which was known as "Ruppert's Skin Tonic," was purchased at a shop in Grafton-street, over the door of which was the name of Anna Ruppert. The poison contained in this preparation was corrosive sublimate to the extent, according to Professor Tichborne's analysis, of eight grains to the bottle. We have had occasion ourselves to submit this "tonic" to analysis, and found that there were present in solution 1·6 grains of corrosive sublimate in each fluid ounce; so that a bottle of half-pint capacity would hold nearly thirteen grains of perchloride of mercury, a fourth of which quantity has been known to be sufficient to produce fatal results. Yet the preparation is described as being a perfectly harmless astringent for cleansing the skin and removing freckles. It is true that it is recommended for external use only, but the ease with which mercurial compounds are absorbed through the skin is well known, two cases of death, in fact, being on record as resulting from the application of corrosive sublimate in this manner; but "among the ingredients [we are quoting from the small print of a tiny label on the bottom of the bottle] there is one that the law demands to be labelled as poison, and although *in this connexion it is absolutely harmless* [the italics are ours] Mrs. Ruppert has no alternative but to do as the law directs." Could anything be more calculated to lead to the indiscriminate use of one of the most powerful metallic poisons

than a statement of this kind? And who could express wonder were such application to be followed by unmistakable and alarming symptoms of mercurial poisoning? Corrosive sublimate is an old remedy for removing freckles, but it should never be used for any purpose whatever without the strictest precautions, and then only under the direct supervision of a medical man. The magistrate imposed a fine of £5 and costs in the case quoted, and it is to be hoped that this action, coupled with increased vigilance on the part of the proper authorities, will promptly assist in preventing the sale of all such mischievous preparations.

THE TRADE IN OPIUM.

THE last British Consular report from the Chinese province of Wenchow contains a number of instructive observations on the cultivation of opium in China. It is evident from these that the production of the drug in that country is markedly increasing. It is mostly consumed at home, but a certain proportion is exported to Formosa. These statements taken in conjunction with the fact that this home-grown opium has in competition with that grown in India compelled a very serious reduction in the price of the latter should suffice to prove that the work of cultivation has been pushed with energy. It is also to be noted that much expense and labour attend the cultivation and collection of the drug. The fields must be heavily manured, changes of weather may seriously damage the crop when the heads are forming, whilst even on the best land and with the greatest care it is at times impossible to secure a crop. The profit arising from successful cultivation is indeed considerable, as much as four pounds of the juice, valued at about £1 sterling, being obtained under favourable conditions from an area of 800 square yards. If, however, we consider that opium is liable to a very heavy duty, that it is produced on the best soil, and is moreover a difficult and uncertain crop, the connexion between profit and loss is evidently nearer than might be supposed.

THE REVOLVER.

THE importance of regulating and, indeed, of minimising the common use of the revolver, upon which we have frequently insisted, has received striking illustration by a return obtained by Mr. Herbert Gladstone giving the statistics of death and serious injury occasioned by its use, accidental or designed, during the three years 1890 to 1892 inclusive. The returns have been obtained from the hospitals' and the coroners' records and deal in the aggregate with no fewer than 536 cases. Of these the larger proportion by far are suicidal, which class comprises 443 cases. The accidental cases number 49 and the homicidal 32, whilst 12 are returned as unclassified. These broad results do not, however, convey any adequate impression of the significance of the return. Thus, to consider only the suicidal cases, it no doubt happens in many cases that the revolver is only an alternative to some other mode of committing suicide and it is true that where a person, whether of sound or of unsound mind, is bent on self-destruction nothing short of personal custody can make the execution of the purpose impossible; but suicide is by no means invariably the outcome of settled purpose, and of this fact the record of suicides by means of revolvers affords some striking examples. Take the case, for example, reported from Oxford of a lad proceeding to that city by train to be entered at a new school who destroyed himself by means of a toy pistol. The victim in all probability of a passing excitement, it is more than probable that, if he had been unable to procure this weapon, he would have braced himself to face his situation. Another instance, equally indicative of the important part which is borne in these matters by the suggestion which a revolver naturally conveys, is that of a woman, who committed suicide by means of a revolver in 1891, having attempted to do so by the same means five years before. Indeed, in numerous cases, which it is quite impossible to tabulate or even to identify, the mental balance is so easily disturbed that a dormant impulse either to suicide or homicide may be awakened by the mere circumstance that the command of a lethal weapon so easy to use with effect affords an opportunity for gratifying the depraved passion. It is but an instance of the general rule that "the sight of means to do ill deeds makes ill deeds done." Another class of cases the appearance of which in this return constitutes a reproach to our police legislation is that in which accidental or mischievous injury has resulted from the use of revolvers by children of tender years. On this point the return is very defective, the age of the person wielding the weapon being given only in some cases; but these few afford such striking instances as the following—a lad of fifteen years accidentally shot by another boy, an infant of two years accidentally shot by a boy, a boy of eleven years accidentally shot by another boy of thirteen years who was instructing him how to fire the weapon, a boy of three years shot by his brother aged five, and so on—every page of the return teeming with instances of this kind. Every one of these was plainly a preventable mishap, since nothing can justify and nothing can even excuse the entrusting to the hands of children of firearms, and it is high time that the laxity of parents and others responsible for the safety of children in this respect was remedied by legislative action. A further return, which has some bearing on this subject, is that relating to armed burglaries, although it must be confessed that the task of keeping revolvers out of the hands of criminals is a very different one from that of keeping them out of the hands of children and good citizens not justified in bearing arms. It is the more satisfactory therefore to learn that, for whatever reason, the revolver is not a very favourite weapon with criminals of this class, who in the aggregate do much more damage with silent weapons than with firearms. Still, a record of three policemen wounded, four private persons shot at and eighteen burglars who have escaped arrest by the use of firearms is a blot which blackens even the tarnished reputation of the mischievous revolver.

INFECTIOUS DISEASES IN BRADFORD.

BRADFORD has usually been regarded as a town where sanitary administration was carried out with vigour and success and without too keen an eye to that excessive economy which so often proves its own ruin. It appears, however, that to a large extent this reputation was the result of other causes than foresight and the appreciation of even the most ordinary requirements of a large town for successfully resisting disease. Recently Bradford has been suffering from two severe epidemics—scarlet fever and small-pox. In some weeks the cases of scarlet fever have been considerably over 100, and small-pox has been more severe in Bradford than in any other town in the kingdom. There have been nearly 400 cases of this preventable disease within a short time and it is still present to a serious extent, despite the exertions of Dr. Evans, the medical officer of health. With such a state of things it is incredible that, in a town where sanitation was supposed to be understood, there should be a most inadequate provision for infectious cases and a defective water-supply. With epidemic disease rife, and at the period of the year when putrefaction is most active and cleanliness most imperative, the corporation of Bradford have been obliged to cut off the water-supply of a large part of the inhabitants from 7 P.M. to 5 A.M. daily. At the same time notices have been issued threatening with penalties all persons who might venture to wash their yards or other filthy places. When we think what this means for those who must "swill," as it is

termed in the north, or die of dirt we can only wonder at the neglect of the corporation in the matter of water-supply. The deficiency has not been felt for the first time this year, yet years must elapse before the proposed new scheme can relieve it. The provision of hospital accommodation has been greatly neglected. With small-pox and scarlet fever both epidemic in the town the existing Fever Hospital was closed to cases of scarlet fever and reserved for those of small-pox, without any adequate provision for patients suffering from scarlet fever being provided. The result has been the accumulation of an enormous number of cases in the homes, mainly of the poorer classes. An attempt has been made to meet the emergency by the erection of some iron buildings, but on an utterly inadequate scale to cope with the danger. The hospital which has been reserved for cases of small-pox is from its situation quite unsuited for the purpose, as it is in a thickly populated district. The difficulty, however, has been largely due to want of foresight on the part of the corporation, who, instead of acquiring sufficient land round the hospital, as could have been done until a very few years ago, have allowed it to be used for building purposes. New streets have been made perilously near to the small-pox hospital and others are in course of erection. Evidence would seem to point to the prevalence of small-pox in the hospital district, and one medical man who lives close to the hospital has fallen a victim to the disease. The corporation should at once take steps to provide a proper hospital for small-pox in a situation more suitable for the purpose. It must not be inferred that the necessity for open ground around a hospital arises merely from the risk of infection to the dwellers in the neighbourhood. The health of the patients demands a large area of free space. They are not healthy persons who may struggle successfully against the close packing so common in our towns. They need fresh air and the absence of the other unhealthy conditions which the crowding of home implies.

THE ORIGIN OF OXYGEN IN THE ATMOSPHERE.

PRIESTLEY discovered oxygen, and Priestley also first recognised that beautiful provision of nature by which animals and plants mutually depend upon one another. Unfortunately, however, the scope of Priestley's investigations will never be known, for the MSS. which contained the record of his long-continued labours were ruthlessly destroyed when a Birmingham mob deliberately set fire to his house in 1791. But he succeeded in showing twenty years previously that a sprig of mint vegetating for a few days in air vitiated by a burning candle restored the purity of that air sufficiently to allow the candle to burn in it again. In an interesting note on this subject in a recent number of the *Chemical News* Dr. Phipson mentions the results of certain experiments which he conducted with the view of elucidating the history of the chemical constitution of the earth's atmosphere. Several kinds of plants were grown in pure carbonic acid gas in which they were found to live for some time (unlike animals), though they did not prosper. In hydrogen they flourished, but the gas was slowly absorbed until it entirely disappeared and the plants became bedewed with moisture. In pure nitrogen and in a mixture of nitrogen and carbonic acid vegetation was remarkably healthy and even luxuriant for a lengthened period. Throughout the experiments oxygen was produced in varying quantities, the roots of the plant being embedded in soil, or sunk in water containing ample carbonic acid and mineral ingredients. These observations have led Dr. Phipson to suggest the following exceedingly interesting propositions as accounting for the history of the oxygen in the earth's atmosphere. The matter composing the earth was at a remote period in the nebulous or gaseous state, but under such extreme conditions of temperature that no compounds could exist. Under these circumstances the atoms are assumed to be free and identical in nature. The first result of cooling down was the formation of atomic systems, similar to the systems in astronomy; elements were formed and eventually combination of elements (compounds) took place. Thus the earth would consist of a solid shell enclosing molten matter and surrounded by an atmosphere. The primitive atmosphere was nitrogen, the element which has the least tendency to combine directly with other elements. Into this atmosphere large quantities of carbonic acid and water were projected by volcanic action —as is still the case, on a smaller scale, at the present time. But it is reasonable to conclude that there was no free oxygen present, because in primitive rocks combustible substances—e.g., sulphides, graphite &c.—are found. It was in this primitive atmosphere of nitrogen, carbonic acid and vapour that the first organised beings (plants) made their appearance, who in their turn produced oxygen, the foregoing experiments having proved that plants vegetate healthily in such an atmosphere, although it could not sustain animal life. Plants of the lowest orders, it should be remarked, evolve oxygen much more copiously, weight for weight, than the higher plants. This oxygen, derived, as already pointed out, from the carbonic acid evolved into the atmosphere by volcanic action, has been poured into the air for an incalculable series of ages—through periods of such vast duration that the mind of man can form no conception of them—until it has acquired the composition found at the present time. In this manner, as the proportion of oxygen increased, so animal life became possible and duly appeared. Accordingly the carbonic acid has correspondingly diminished and, *a priori*, the strata of the earth reveal immense deposits of carbon (coal, lignite &c.). It is possible that the increase of oxygen and diminution of carbonic acid still continue, but so slowly as not to be perceptible even on the most exact chemical analysis; but it is interesting to add that the latest and most careful determinations of carbonic acid in the air have shown a decided decrease in the last fifty years (0·05 to 0·03 per cent.). In considering these ingenious deductions of Dr. Phipson it may be remarked how well the subject illustrates the likelihood of a few beautifully simple experiments leading to the elucidation of probably great and fascinating truths. As plants, according to these theories, prepared the way for man we may, on the same line of reasoning, contemplate the possibility that man is similarly setting up conditions favourable to the existence of a still higher organism.

THE RED CROSS MOVEMENT IN SPAIN.

OF the three typical Latin countries—Italy, Spain and Portugal—it is difficult to say which is suffering most acutely from what Lord Beaconsfield (when Mr. Disraeli) called "that ignoble melancholy which arises from pecuniary embarrassment." Perhaps Portugal with her depreciated currency is nearest what Americans would call her "bottom dollar"; at any rate she is not showing the liberality which Italy in the first degree and now Spain in the second are putting *en évidence* by the development in the former country and by the rehabilitation in the latter of sanitary or hygienic undertakings. Amongst these the Red Cross movement has attained in the Italian Peninsula a completeness of organisation which is surpassed by no other nationality in Europe, and at length, we are happy to record, Spain is following her example with an energy from which the best things may be augured. A National Red Cross Association was established in that country some twenty-eight years ago, and during the Carlist rebellion which followed it showed to really brilliant advantage. The suppression of that rising, however, inflicted such a drain on the Treasury that the Association first began to decline and then succumbed to what may truly be called a "galloping consumption." Its liberal-minded and liberal-handed promoters diminished until

so absolutely dead had it become that its name was expunged from the list of Red Cross Associations. Thus it was that, in the words of a high-placed friend of the cause, "Le réseau européen de la Croix-Rouge offrait ainsi une solution de continuité des plus regrettables." That "solution of continuity" has now, however, been repaired; the Spaniards have realised the stigma on the national honour which was reflected by the collapse of their association, and such has been the vigour with which they have reorganised it and placed it on its old footing that the central committee of the Red Cross Associations, which has its seat at Geneva, has just announced, "urbi et orbi," the return of the Spanish contingent to the post from which it had temporarily disappeared. And not in Spain only, but also in Brazil, a forward movement in the same direction has been made, a correspondent from Rio de Janeiro announcing the formation for the first time in that region of a Red Cross Society. In Siam also, which was so recently the subject of somewhat strained diplomatic relations between France and Great Britain, the propriety of organising an association of the kind has been promptly recognised and given practical effect to. So that both in the Western and the Eastern hemispheres we may expect to see the good example followed and other Governments besides those of Rio de Janeiro and Bangkok applying for representation on the International Red Cross Committee in the terms of the Geneva Convention which was formulated in 1864.

MISDIRECTED SATIRE.

THE exhausted humourist is sometimes driven to ignoble shifts for "comic matter," but rarely, let us acknowledge with thankfulness, to the very cheap and eminently ungracious device of raising a laugh at the expense of the science-worker, however humble, of a bygone age. It is a form of wit—to parody Dr. Johnson's famous *mot*—which clever men despise for its ease and kindly men for its ingratitude. Yet it is to such an abuse of nineteenth-century knowledge and experience that an American humourist, of whom better things might have been expected, has, in his "later manner," descended. In a recent publication Mark Twain brings to light what he calls a "literary fossil"—Dr. James's "Dictionary of Medicine," to wit—published about a hundred and fifty years ago, and from this book—a highly creditable compilation from the leading scientific authorities of the time—he makes sundry extracts, chiefly in the domain of therapeutics, for the sole purpose of converting the practice of the first half of the eighteenth century into ridicule. He succeeds, no doubt, in finding prescriptions in Dr. James's work which, read by the light of recent clinical experience, may be pronounced as tentative, crude, and even risky; but he makes no allowance for the comparatively immature physiology and pathology of the days preceding biological chemistry, and the microscope, and the thousand and one aids to diagnosis elaborated in the intervening century and a half of time have strengthened the hands of men far inferior in native ability to the author of the "literary fossil" referred to. One of Dr. James's authorities is "Bonetus"—of whom Mark Twain seems to have heard only in the Doctor's dictionary—and the treatment recommended by Bonetus in a case of sudden and violent pain in the head—namely, local blood-letting—is the occasion of his misdirected and, let us add, ill-inspired ridicule. The pain, it seems, had seized the patient "in the dog-days," and Bonetus's efforts to relieve it, stopping short of arteriotomy (division of the temporal, we presume)—which, had a surgeon been at hand, he would have hazarded—are sufficient to draw down on him, from the nineteenth-century humourist, the epithet of "butcher" and a variety of other opprobrious sallies. It may be news to Mark Twain to hear that Théophile Bonet (Latinized, Bonetus) was for his time (1620–1689) an exceedingly able and accomplished physician, the medical adviser of the then Prince of Neufchâtel, and author of the "Sepulchretum," which found such acceptance in the Europe of his day that an eminent physician like Dr. James thought he was doing a service to the general practitioners of his country by embodying its precepts and practice in his dictionary. Bonetus, as Mark Twain will find, has an honourable niche in every great History of Medicine, including the quite accessible article in the "Encyclopædia Britannica," and by every philosophical student of scientific progress is regarded as a link, and a not inconsiderable link, in the chain of medical evolution. "Omne ignotum pro magnifico" has, it seems, a counterpart, and a much less gracious one, in "Omne ignotum pro ridiculo," and nothing but the implication that his readers were as unenlightened as himself could have warranted the American humourist in making fun of a well-known figure in the "gallery of medical portraits." Mark Twain would have found much more legitimate targets for his undoubted command of the risible susceptibilities of his readers in the country of his birth, which, as the writer of "Martin Chuzzlewit" has shown, is not the least prolific in laughter-moving vagaries, scientific, literary and social. In Rudyard Kipling's sketches, "From Tideway to Tideway" and "On This Side Only," the world has had many a genial smile at developments, moral and intellectual, which have not a century and a half of antiquity to plead in their excuse—developments quite as worthy of a place in Dr. Mantegazza's "Psychological Museum" as any "fossil" which Mark Twain has succeeded in extracting from the once useful but long superseded "Dictionary of Medicine" at which he levels so much misdirected satire.

THE CRANIUM OF SOPHOCLES.

AMONGST the treasure-trove which has come to light lately as the result of Hellenic excavation none has been more enthusiastically heralded than that which was discovered the other day at Deceleia—namely, the cranium of Sophocles. Already it has been sought to throw a damper on the delight of the discoverers by suggesting doubts as to its authenticity—and certainly the Greek record as to such "salvage from antiquity," whether it be a coin or a manuscript, a tomb or a cranium, is not so invariably unsullied as to absolve the finder from the most stringent proofs of *bona fides;* controversy round this latest prize of archæology has waxed so warm, indeed, that an arbiter has had to be constituted—an arbiter who, to classical learning, adds the scarcely less appropriate qualification of anatomical and palæontological knowledge. Professor Virchow of Berlin is the authority to whom the contending camps have consented to appeal and by his judgment, reinforced as it will doubtless be by that of the archæologists and men of science with whom Germany abounds, the question will, provisionally at least, be settled. We await Professor Virchow's decision with unusual interest and on grounds which every student of the connexion between genius and organisation will readily appreciate. Probably no dramatic poet who ever lived possessed faculties which were so splendid in their proportion and so symmetrically balanced. Aristotle, in a memorable passage of the "Poetics," has announced the artistic rank of Sophocles for all time, and a perusal of the "Antigone"—even in the English prose of Professor Jebb—will amply confirm the verdict of the Stagirite. "Perfect beauty," said Ottfried Müller in the opening sentence of his monumental work on Greek Art, "perfect beauty, like the purest water, should have no characteristic"—a profound saying which commends itself to the æsthetic mind the more it is pondered over. Nothing detached, nothing conspicuous, in outline and colour diverts

the eye from a symmetrical, a harmoniously balanced and blended creation such as we recognise in the Sophoclean master work—a drama which owes its transcendent beauty not to "fine passages," not to "similes" or "figures," which, after all, are but the after-thoughts—the *adminicula*—that come in aid of an imperfectly thought-out original, but to the absolute symmetry of the conception, the statuesque completeness with which the central figure, embodying the central idea, impresses itself on the thoroughly sympathetic (*ξυναδών*) spectator. From core to periphery there is indeed nothing "characteristic," nothing "exceptional," in the consummate whole—"totus, teres atque rotundus"—of the Athenian poet; but the balance which is maintained throughout is so faultless in its equipoise that the mind, once brought face to face with it, perceives and retains nought but the "perfect womanhood" of the poet's design. Will the cranium just unearthed of the writer of the "Antigone" illustrate, so far as cranial structure can illustrate, the symmetry of the mind whose cerebral substratum it enclosed; or are we to experience yet another disappointment in finding that genius of the most perfect order can enshrine itself in a comparatively narrow and poorly adjusted tenement? We should indeed be surprised if this latter result were found to be the case—knowing, as we do, the overwhelming preponderance of the instances in which mental power has prepared the contemporary world for its expression by the cranial conditions under which it is found. In the library of the University of Edinburgh, for example, the skull of George Buchanan, except for the abormal thinness of its osseous texture, is all that we might have expected. Again, we have but to recall the fact that the only hat that would go over the cranium of Robert Burns (amongst a distinguished company who, one by one, made the experiment) was that of Thomas Carlyle—a "fit" that would have been impossible in the lifetime of the poet, with his dark, bushy locks curling round his calvaria. Comparative craniology, indeed, from the fewness of its typical illustrations, labours under disadvantages which are not shared by other departments of comparative science; and it is this, amongst other considerations, which quickens expectation and intensifies interest as to the verdict which is about to be given by Professor Virchow and his assessors on the putative skull of Sophocles.

THE NIGHTINGALE FUND.

THE report of the council of this Fund for the year 1892, which now lies before us, gives a highly favourable account of the work which has been effected by its officers during the past twelvemonth. Next to skilled medical and surgical advice and treatment nothing is more welcome to the sick or more conducive to their recovery than the ministrations of a thoughtful and capable nurse. The age in which we live may be said to be distinguished for many things, such as the rapid advance of science, the diffusion of popular literature, the growth of geographical enterprise and so forth; but to members of the human race whose hearts "are in the right place" one of the prominent characteristics of our time is undoubtedly the care which is bestowed on those who are disabled by bodily or mental infirmity. In connexion with work of this nature a few items which are contained in the report of the council of the Nightingale Fund will be found to be of interest. The number of probationer nurses who were admitted during the past year amounted to 55, 35 of the same class remaining on Jan. 1st; 33 completed their year's training, whilst 18 resigned or were discharged as being unsuited to the work. At the close of the same year 20 remained in the school as special or lady probationers and 19 as nurse probationers. The committee believe that the probationers receive in the home that "motherly moral training of character" which Miss Nightingale has always insisted upon as being an essential element in any sound system of nurse training. Twenty-five lectures were given in the course of the year, nine by Dr. Ord and ten by Dr. Sharkey on medical subjects, and six by Mr. Mackellar on surgical subjects. Mr. Lunn, the medical superintendent of the St. Marylebone Infirmary, lectured once a week during six months of the year to both probationers and nurses on medical and surgical subjects and the chemistry of food; he also gave clinical teaching in the wards and individual instruction in prescriptions, together with hints on the general treatment of patients. Probationers attended operations and were taught the use of instruments—we presume of a simple kind.

THE RECENT HISTORY OF SMALL-POX IN LEICESTER.

THE history of small-pox in Leicester during the past twelve months is interesting, not so much on account of its amount as by reason of its continuity. Some towns have had more severe epidemics, but few can compare with Leicester in the persistency with which the disease has clung to the town. Leicester has at no time been overwhelmed with an altogether unmanageable amount of small-pox—it has only had to face the disease in detail; but notwithstanding this fact the infection has been steadily maintained in the borough and it still continues, even at a season when small-pox has altogether ceased in towns where it prevailed in the spring and early summer, and when it is habitually at its minimum in this country. The existing epidemic in Leicester commenced in September of last year, and taking the months according to the division by completed weeks, as adopted by the Registrar-General, the following is the record of attacks. September, 1892, 3; October, 5; November, 14; December, 12; January, 1893, 58; February, 25; March, 16; April, 27; May, 33; June, 52; July, 22; and August (up to the 19th), 15. The total number for nearly twelve months is thus 282. The meaning of this persistency of the infection in Leicester may come to have historic value in the records of the means of prevention to be adopted against small-pox; but it would be as yet premature to discuss the full significance of the statistics quoted, especially in relation to the incidence of the disease in the more immediate future.

THE PRODUCTION OF PRUSSIC ACID FROM SUGAR.

THE conversion of an absolutely innocuous substance into one of a powerfully toxic nature by means of a series of simple chemical operations, though not a rare phenomenon, is well illustrated in a reaction recently observed by three chemists—Messrs. Burls, Evans and Desch—in which prussic acid proved to be one of the products of the action of nitric acid upon sugar. It is well known that by acting upon sugar, sawdust or cellulose with nitric acid oxalic acid in tolerable quantity is produced. In the course of such an experiment the chemists above-named noticed the smell of prussic acid just after the first violence of the reaction had ceased and the evolution of nitrous fumes had diminished. Subsequent examination proved beyond doubt that prussic acid in considerable quantity was present in the liquid, and on submitting the liquid to distillation prussic acid was found in the condensed products. A larger yield of the acid was obtained when the nitric acid was allowed to drop slowly into the sugar solution from a tap funnel. Caramel was acted upon similarly, although the quantity of prussic acid produced was less than before. The production of hydrocyanic acid would appear to be due to the reduction of the nitric acid to nitrous acid and to the action of this acid upon the carbon ensuing on the decomposition of the sugar. Finely-divided carbon itself was found to give prussic acid on distillation after treatment with nitric

acid, and the same result was obtained when cane-sugar was acted upon by nitrous acid by submitting the sugar first to the action of nitrite of potassium and then acidulating with sulphuric acid. On this hypothesis the reaction may be thus represented: $2\,HNO_3 + C = 2\,HNO_2 + CO_2$ and $HNO_2 + 2\,C = HCN + CO_2$. This action is evidently of interest from a theoretical point of view and only shows how we may be led astray in being content with the simplest explanation of certain phenomena. The text-books give oxalic acid as the product of the action of nitric acid upon sugar, but now must be added the observation that hydrocyanic acid is a compound simultaneously produced.

LITTLE CHILDREN AND HEAT.

DURING the late heat there were a great many complaints on the part of grown-up people, who could make themselves heard; but what about little children, who have to do as they are told and to go where they are taken in perambulators and carriages exposed to the heat of a broiling sun? It seems to be not at all an uncommon thing for babies and little children of the middle classes to be sent out, without the smallest protection for their heads and the backs of their necks, in charge of very young nurses with orders that they are to remain out for some hours perhaps. The mothers who act in this way do not seem to have drawn any practical lesson from the story of the Shunamite woman's child and Elisha. The heat of the sun made the child ill, with what result we know. The story is as old as the Old Testament and the moral, as far as the effect of the sun on young children is concerned, cannot well be missed by any reader. Now we are advocates for fresh air for children, but it cannot be right—on the contrary, it would seem to be reckless—to send out little children from four years of age down to infancy during the heat of the day, propped up in a perambulator or kind of mail-cart, in charge of a girl who is little more than a child herself. The children look pallid, fatigued and weary, and no wonder, for many of them are in a profuse perspiration and evidently feel exhausted by the heat. Little children are very sensitive to heat, and they are better under cover in a house, in a thoroughly ventilated room, during the hottest periods of the day. If they happen to reside quite close to a park and can play in the open air under the shade of big trees it is, of course, a different matter; but in any case they should not be out for too long at a time, but should return for food, refreshment or sleep.

MUTILATION AS A TRADE.

THE lapse into poverty, according to the Roman satirist, has no bitterer consequence than this: that it makes men ridiculous. It seems to be reserved for the nineteenth century to associate it with an infinitely darker result—in making men inhuman. Certainly the depraved society which Juvenal castigated with such *sæva indignatio* produced no depravity equal to that which a Vienna despatch announces from Croatia: an organisation of "men"—fiends would be the more fitting word—who make it their business to mutilate little boys and girls for the money which they receive from congenial vagabonds who exhibit the sufferers to the charitable in European cities. Compared with this practice the *métier* of Burke and Hare loses half its atrocity. These ruffians kidnapped and "did to death" the more helpless of the proletariat and sold their corpses to the purveyors of anatomical "subjects"—a proceeding of which this, at least, is possible to be said: that the healing art profited by the educational facilities thus afforded and that—*pro tanto*—humanity was so far the gainer. The "business of mutilation" which is reported from the Austrian Empire, however, is unrelieved by a single ray—however indirect—of humanitarian advantage. Its motives are as sordid as its methods are diabolical. To keep the "deformity market" well stocked for the purposes of mendicant appeals to the benevolent, the purveyors in question distort, by fracture or by continuous pressure between boards which are tightened by screws, the legs and arms and spinal columns of boys and girls of tender years—nay, they gouge their eyes out or create artificial sores, to be intensified or aggravated as occasion demands. And this horrible trade had been going on quite long enough to prove how profitable it had grown—how pecuniarily valuable the "goodwill" of its promoters had come to be in the market—when the Austrian police surprised the mutilators in their den and took them and their *armamentarium* of torture into custody. "Society," no doubt, will be interested in seeing the sternest retributive justice meted out to these ruffians; but, in the meantime, has it no lessons to take to heart in the disclosures which have so appalled it? That the "trade in deformity" should exist at all—that its promoters should live and thrive as they do—can be possible only under that system of indiscriminate alms-giving which has been well-defined as "selfishness in disguise." Rather than take the trouble to select the deserving from the undeserving objects of its charity, rather than fulfil its duty of ascertaining—or of helping those whose business it is to ascertain—where relief is genuinely wanted, and where assistance can be applied with profit, it salves its conscience by a hasty dole to the sensational deformity exhibitor and goes on its way with a Pharisaical self-satisfaction at its tender-heartedness and liberality. Not till the well-favoured classes are at pains to become cognisant of how the lower strata of the proletariat live and move and have their being—not till the more fortunate are actuated by some nobler impulse than to get rid of the "appeal of poverty" as quickly as possible and pass on to its own self-gratification, with the "flattering unction" of having "lessened misery for the day," or of having kept unsightliness in the background and made disease or want contented for the hour—will it relieve itself of the harpies who trade on its moral cowardice, such as the ruffians who have been brought to justice in Croatia.

THE DIFFUSION OF SMALL-POX.

IN the metropolis the abatement of small-pox still continues. There were 32 fresh cases last week and the number of patients under isolation in the hospital ships and in the convalescent hospitals on the 21st instant was 175. But the disease still clings somewhat tenaciously to a number of provincial towns. Thus last week fresh attacks occurred as follows:—Bradford, 17; West Ham, 12; Tottenham, 6; Leicester, 6; Walsall, 5; Oldham, 5; Wakefield, 5; Birmingham, 4; Middlesbrough, 4; Newcastle-on-Tyne, 3; Tynemouth, 3; Blackburn, 3; Huddersfield, 3; and Manchester, 3. A number of other places, including Chatham, Chadderton, Burton-on-Trent, Salford and Keighley, had 1 or more isolated attacks.

HOT WEATHER, PUTRESCENCE, AND DISEASE.

ACCOUNTS recently published in the daily press will no doubt have opened the eyes of many persons to the dangerous impurities which exist in abundance under their very eyes. Twenty-five to sixty a day were the numbers quoted by a Thames waterman whose duty included the task of picking out of the Thames the bodies of dogs drowned in it. This is but one means of contamination. Many others might be mentioned, but the moral is obvious without going into fuller details on a subject so unsavoury. The condition of our city canals, which are well-nigh impossible to cleanse, teach a similar lesson—namely, the importance of preventing such contamination rather than of seeking to purge their Augean accumulation. The long-continued drought has had its effect also, as the roadways,

rendered malodorous by open gullies and sewers unflushed by rain, continually teach us. In judging of the causes which give rise to the foul and painful throats and the various forms of fever which have this summer been so much more common than is usual with us, we must take account of all such removable impurities. Surely we may also regard as part of the ordinary duty of cleanliness entailed on civic bodies the prohibition and effectual prevention of such contamination as is suggested by the foul-smelling roadway and the "dead dog harvest" of the Thames.

THE CARDIAC GANGLIA AND SOLAR PLEXUS IN CHOLERA.

DR. FELIX STOMMA of the Mariinski Infirmary, St. Petersburg, has carried out an investigation into the condition of the cardiac ganglia and of the solar plexus in cholera. His material consisted of twenty fatal cases which occurred in the Alexandrovski and Mariinski Hospitals. He finds that in very rapid cases—that is to say, where death occurs in one or two days after the commencement of the symptoms—both the solar plexus and the cardiac ganglia present an œdematous appearance of the nerve cells, there being a slight turbidity and swelling of some of these and also of some of the endothelial cells. When the case has continued for from two to four days before death has occurred the turbidity in the nerve cells is more marked. Changes in the endothelial capsule are indicated by turbidity of the protoplasm and by swelling with signs of commencing activity of the nuclei; there is also more or less infiltration by round granulation elements both into the connective tissue and into the cavities of the capsules of the nerve cells. In cases where death has not occurred for four days or more from the commencement of the disease the nerve cells show signs of fatty degeneration in different stages, and there is marked proliferation in the endothelial capsule, the cells forming layers and exercising pressure on the nerve cells. There is also a larger amount of infiltration by granulation elements in these cases.

THE PREVALENCE OF FEVER.

THE incidence of scarlet fever appears to be abating, to judge from the returns from the large towns in recent weeks. The numbers reported have declined from over 2000 to something like 1600 in the last three weeks. West Ham and Leicester still maintain an unenviable precedence, whilst London continues to furnish nearly one-half of the cases. In the matter of diphtheria the metropolis exhibits about one-third of the total number of cases, which after showing some rise have now fallen to about 350 a week. Enteric fever shows a steady rise from week to week, but the London quota continues small, seldom rising above an eighth. The number of scarlet fever patients under treatment in the London fever hospitals shows a progressive decline and is now well under 3000, which limit it recently seemed likely to exceed. The number of diphtheria patients under treatment remains stationary, as does the number admitted each week; but the metropolitan mortality from this disease is still considerable and is as yet much above the average. The number of enteric fever cases isolated and the number admitted both show some increase. Reports are to hand of prevalences—more or less severe—of enteric fever in different parts of the kingdom, as at Atherstone, Stanford, Dundee, and Johnstone near Glasgow. Scarlet fever prevails in various villages of East Suffolk and at Driffield in Yorkshire. Diphtheria exists at Saxmundham, whilst this disease, measles and "fever" are raging together in the Forfar district. Small-pox appears to have abated at Leeds, and but few cases of fever remain isolated.

SEATS IN LONDON THOROUGHFARES.

THERE is more of impatience than of reason in the complaint of a correspondent in the daily press who recently protested against the comparative scarcity of seats in most of the wider London thoroughfares. He has ignored the fact that within the last ten years a great deal has been done to provide such accommodation wherever possible. Of necessity this has been limited to points at which the existence of open spaces rendered it as little obstructive as it is in itself desirable. In judging of this matter we must not allow ourselves to forget the requirements of traffic and of social order. Those who traverse much frequented roadways are for the most part busy people and little disposed to rest by the way; consequently, but for loafers whose inactivity requires no encouragement, there is little occasion for street resting-places. In the event of excessive fatigue or illness the traveller can usually depend upon the courtesy of any civil shopman to allow him to sit down within his doorway, nor is the public-house alone open to afford him this convenience. If therefore an additional bench is added here and there upon the wider and less crowded roadways whilst every available open space is utilised as an urban oasis no occasion will remain for the strictures of the press controversialist. These desirable changes, we need scarcely remind our readers, are amongst the daily concerns of such energetic societies as the Metropolitan Public Gardens Association.

FOREIGN UNIVERSITY INTELLIGENCE.

Berlin.—Dr. Karl von Noorden, *privat-docent* in Special Pathology and Therapeutics, has been raised to the rank of Professor. Dr. Hermann Oppenheim, *privat-docent* in Psychiatry, has also been raised to professorial rank.

Heidelberg.—Dr. Paul Ernst has been promoted to an Extraordinary Professorship of Bacteriology.

Jena.—Dr. Richard Neumeister has been promoted to an Extraordinary Professorship of Pathological Chemistry.

Montpellier.—Dr. Capmann has been appointed Director of the Surgical Clinic.

Munich.—The University staff is losing Dr. Oscar Loew, *privat-docent* in Vegetable Physiology, who has been appointed to the Chair of Agricultural Chemistry in Tokio.

Turin.—Drs. Raineri, Peroni and Sclavo have been recognised as *privat-docenten* in Midwifery, Syphilography and Hygiene respectively.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.

THE deaths of the following distinguished members of the medical profession abroad have been announced:—Professor Julius Sommerbrodt, at Breslau; he was the son of the Director of the Gymnasium in that city and was born in 1839, and he there received his academical and scientific education. In 1862 he became a *privat-docent* and for a number of years had been an Extraordinary Professor in the Medical Faculty. He was chiefly known for his advocacy of creasote as a remedy for phthisis, but he also contributed clinical papers to scientific periodicals.—Dr. Stanislaus Frantsevich Cherenkevich, formerly a Russian army surgeon. He published a medico-topographical account of the Penzenski government, and also some poetry in the Polish language.—Dr. Heinrich Cramer, Professor of Mental Diseases at the University of Marburg, at the age of sixty-two.—Dr. O. Rosenberger, the *doyen* of the Kösen Bath Physicians, at the age of eighty-seven.

THE Paris correspondent of *The Times*, in its issue of Tuesday last, writes, in reference to the French elections: "It should be noted that, in a district of the Gers, M. Lannelongue, the distinguished surgeon, who is well known in

England and was the last physician of Gambetta, a tried Republican, has beaten the special *protégé* of M. Paul de Cassagnac, M. Daynaud."

M. NUZILLAT, physician to the Prefecture of Police in Paris, has resigned his appointment at the age of seventy and after thirty years' service. Familiarly known as "Père Nuzillat," he gained the rosette of the Legion of Honour in 1870, took part in the Crimean and Italian campaigns, and had seen service with the Chasseurs d'Afrique and the Zouaves in Africa.

CHOLERA.

CURRENT NOTES, COMMENTS AND CRITICISM.

THERE seems to be a general impression that heat *per se* is favourable to the progress of cholera; this, however, is an erroneous idea. Dry heat is inimical to cholera rather than otherwise, whereas moist heat is exactly the reverse. The exceptionally high temperature and drought of this summer have no doubt been favourable to the public health as far as that disease is concerned. The weather now shows signs of breaking up, and it will be interesting to watch the effect which the fall of rain may have on the extension of the epidemic. The more we learn about the conditions under which outbreaks of cholera occur the more clearly does it appear that the water-supply is the main consideration to be attended to. The investigations which have been hitherto conducted into such outbreaks as those at Hamburg, Nietleben and the epidemic that prevailed near Paris all tend in the same direction—viz., that the water-supply was not properly protected against sewage contamination. There are no doubt other causes influencing the spread of cholera and other factors to be considered; but a good, wholesome water-supply is a tangible, practical and essential object to be aimed at in the way of protecting a population against cholera as an epidemic.

Since our last report the disease has been still prevalent or extending itself in Europe in various directions, but not with any marked indications of epidemic intensity.

A soldier died of cholera at St. Petersburg on the 15th inst., and the returns from that seat of government show a further increase of cholera in most parts of Russia. The official figures are as follows: Province of Kieff, 529 cases and 184 deaths; province of Nijni Novgorod, 468 cases and 191 deaths; the Don territory, 245 cases and 109 deaths; province of Samara, 198 cases and 75 deaths; province of Kazan, 75 cases and 28 deaths; province of Kalisch, 97 cases and 33 deaths; province of Minsk, 32 cases and 15 deaths; province of Simbirsk, 31 cases and 11 deaths; and province of Kherson, 54 cases and 22 deaths. In the city of Moscow about 90 cases and 38 deaths occurred daily. The Minister of the Interior has caused stations of observation to be established in the provinces of Bessarabia, Podolia and Volhynia. The sudden change from extreme heat to rain and wind has had no ameliorating effect, the epidemic being still on the increase.

From Bucharest we learn that fresh cases and deaths from cholera continue to occur at Ibraila, Sulina, Galatz and Fetesei, but the disease shows signs of abatement at Ibraila and Sulina. Cholera is alleged to be widely distributed over Roumania.

From Vienna, according to the *Official Gazette*, it appears that cholera still makes progress in Galicia, although the latest intelligence indicates that there is some slight improvement in that province in regard to it. The disease still prevails to a certain extent in the Nadvorna district, in Sniatyn, and in the district of Kolomea. The disease has also appeared at Czernowitz and at Horecza on the river Pruth.

It is reported from Hungary that several suspicious cases have occurred in the neighbourhood of the River Theiss and the reports have been officially confirmed to the effect that cholera had spread down the valley of that river as far as the town of Szolnok, which is about sixty miles from Budapest, and to some of the neighbouring villages in the Szolnok county. The report of a serious outbreak in Marmaros county is denied, but there does not seem to be any doubt that several cases of a choleraic nature have occurred amongst the 8000 men employed in the construction of the railway of that district. The directors of the Hungarian State Railway have announced that the Orient express service over the Servian lines has been suspended in consequence of the imposition of a three days' quarantine.

The public health in Berlin continues to be satisfactory; vigilant care is exercised by the sanitary authorities in obtaining information as to the progress of the disease and in endeavouring to safeguard the population against it. It is officially announced that cholera has broken out in the Russian towns of Kolo and Konin, on the river Warthe, in the vicinity of the Prussian frontier.

Cholera is stated to have manifested itself afresh in Smyrna, where, according to reports from Athens, it is said to be greatly on the increase, the returns showing an average of 20 cases and 14 deaths daily. Several cases have occurred amongst the better classes of the population.

From Rome we learn that the disease continues to prevail at Naples with an average of 8 or 10 cases daily; a few cases have occurred in the provinces of Aquila and Perugia and some sporadic cases have also occurred in the towns of Florence, Aquila and Campobasso. Single cases have likewise been reported at Foggia, Perugia and at various points in the province of Alessandria. The disease seems to be widely distributed but of no great virulence, and it is probable, with regard to some of it at any rate, that the cases are not really Asiatic cholera but the result of summer diarrhœa and cholerine.

A fatal case of cholera was reported to have taken place on board a vessel at Rotterdam on the 21st inst., and three or four cases have since appeared in the shipping and in the city itself.

The report that cholera has reappeared at Antwerp is contradicted.

As regards the alleged fatal cases of cholera in London, it appears that in one of them death arose from perforation of the intestine, and with regard to the others the results of a bacteriological examination have yet to be declared. It is unlikely, however, that they were cases of Asiatic cholera, no death from that disease having hitherto taken place in this country during the present epidemic, except such as may have been imported. Still, the occurrence of such cases at this time is a suspicious circumstance and very properly calls for investigation as to what was the exact nature of the disease of which the patients died.

CHOLERA AND THE SWISS TOURISTS.

(FROM OUR SPECIAL CORRESPONDENT.)

THE opening of the tourist season in Switzerland coincides with the time when the spread of cholera is mostly to be feared. Under these circumstances it is difficult to decide where the usual summer trip may be enjoyed with the least possible risk. On the other hand, no one dealing with so hazardous a question as cholera would venture to prophesy or even to advise. This much, however, can be said—namely, that in the past Switzerland has been exceptionally free from cholera. Such a fact naturally engenders the hope that there is something special in the climate or in the conditions of life prevailing in Switzerland which does not favour the development of the disease. However, without venturing on anything so dangerous as a theory, I append the facts of the case. With the very courteous and friendly aid of Dr. Guillaume (Chief of the Statistical Department) and

Dr. F. Schmid (Chief of the Sanitary Department of the Federal Swiss Government at Berne) I am able to compile a short history of cholera in its relations with Switzerland. The facts seemed to me most encouraging and show that if the past is any indication of the future, Switzerland is one of the safest places for summer tourists.

Cholera first came to Switzerland in 1836. It had been imported from Italy and prevailed in the Italian Swiss canton of the Tessin, principally at Lugano and Mendrizio. The epidemic lasted ten weeks, but there is no record as to the actual number of victims. In 1849 the Tessin again suffered slightly. There were very few cases, chiefly at Mendrizio. In all, and spread over three communes, there were 39 cases and 25 deaths. The third visitation of cholera was more serious. It occurred in 1854–55 and again began in the Italian canton of the Tessin, but it subsequently spread to the cantons of Argovia and Zurich. The following year, 1855, cholera occurred in Basle town, in the Basle rural district, at Geneva, again at Zurich and in the Tessin. At Geneva and at Basle cholera was evidently imported from France. In the Tessin cholera began in 1854 in August and continued to the end of September, there were 130 cases and 55 deaths; in the following year the epidemic commenced on Aug. 5th. The precise date of the termination is not known, but there were 436 cases and 265 deaths, making for the two years a total of 566 cases and 320 deaths. In the Argovia canton the epidemic commenced on Aug. 12th, and lasted to the end of October, 1854; there were 271 deaths but no renewal of the disease the following year. At Zurich also cholera broke out in 1854; these were, however, only imported cases—8 in all, resulting in 4 deaths. The first was noted on Oct. 26th and the last on Nov. 22nd. Though there were so few cases in 1854 the disease evidently took root in the town, for in the month of August, 1855, it broke out with some virulence, and there were 218 cases with 119 deaths. The same year cholera was declared in the Basle canton. In the town of Basle it began on July 29th, 1855, and lasted sixty-six days; there were 399 cases and 205 deaths. During the same time there were in the rural district of Basle 504 cases and 294 deaths. Finally, during the autumn of the same year there were 92 cases and 50 deaths in the canton of Geneva. The actual number of cases is not, however, of so much importance. The whole question rests on their proportion in relation to the population. Basing the calculation on the census of 1850, I find that for the epidemic of 1855 the proportion of cases for the town of Basle was 13·4 per 1000 inhabitants and the proportion of deaths 7·0 per 1000. For the Basle rural district the proportion of cases was 10·5 and of deaths 4·4 per 1000. In the Tessin canton the proportion of cases was 8·1, and of deaths 4·6 per 1000; but in the district of Mendrizio the proportion of cases was 26 per 1000 of the population. In the Zurich district, which comprises the town and a considerable rural population, the proportion of cases was 4·5, and of deaths 2·4 per 1000. In Geneva the proportion of cases was 1·4, and of deaths 0·8 per 1000.

The fourth and last epidemic of cholera took place in 1867. An isolated case occurred in the canton of the Valais on July 4th, and during the course of three months there were in all 38 deaths from cholera in this canton. Two days later (July 6th) cholera again broke out in the Tessin district, which is decidedly the black spot of Switzerland. As usual, it was the towns of Mendrizio and Lugano that suffered most. There were in the Tessin canton 216 cases and 119 deaths; but it was at Zurich that the worst of all the Swiss epidemics occurred. A family arrived from Rome with a sick child who died shortly after reaching Zurich. The people who washed the linen of this family contracted cholera and the disease soon spread over the town. The epidemic lasted from July 18th to Oct. 31st. There were in all 771 cases—of which 652 occurred during the month of September—and 499 deaths; this is equal to 10 cases per 1000 of the population of the Zurich district and to 11·6 per 1000 of the town of Zurich. I have not the proportion of deaths, but it may be roughly estimated at about half these figures. As usual, some localities suffered more than others. Thus, in the Zurich district there were but 8·0 per 1000 cases, in the commune of Reisbach; 10·3 in the commune of Zurich, or the old town; 16·0 in the commune of Wipkingen; 22·0 in the Oberstrasse and Unterstrasse, and 23·0 in the Ausersihl.

From Zurich a few cases were imported into the Argovia district; in all there were 24 cases and 15 deaths; and at Saleure there was an epidemic in a paper manufactory—15 cases and 12 deaths. It is important to note that the paper was made with rags that had been brought from Zurich, at that time a very unhealthy town. There was not a sufficient water-supply, and cesspools on all sides contaminated the wells. Since then considerable improvements have been effected in sanitary matters both at Zurich and in other parts of Switzerland, and there have been no further epidemics of cholera, though other parts of Europe have suffered severely. Thus, during the great Spanish, Italian and French epidemics of 1883–85 there was no cholera in Switzerland. In 1884 six suspicious deaths occurred in the prison of St. Antoine at Geneva and there was a very excited controversy at the time as to whether these were or were not cases of cholera; at all events, the disease did not spread. There were also in the canton of Geneva three persons who had arrived from France and who suffered from cholera, but on this occasion, again, the disease did not develop into an epidemic.

From all these facts it will be seen that on several notable occasions when cholera prevailed in Europe and came close to the Swiss frontiers Switzerland remained quite free from the disease. When on rare occasions cholera did cross the frontier it did not become general throughout the country. Tessin, Basle and Zurich alone have suffered, and these represent but a very small portion of Switzerland and not that part which attracts most tourists. Above all it must be noted that it is now sixteen years since there has been any cholera in Switzerland and that great sanitary improvements have been effected during that time. If, before these improvements were carried out, cholera gained ground in only one or two districts, we may hope that it will not now spread at all. The Swiss people are clean, and the hotels frequented by tourists are, generally speaking, models of good management. Many of the towns are more than 1000 feet above the level of the sea and the villages frequented by tourists are often from 4000 to 5000 feet above the sea-level. There is but little overcrowding. Even the biggest towns are small and there are not the vice and poverty, the dirt and squalor which we are accustomed to meet in the large centres of France, Germany, England &c. Under all these circumstances it is to be hoped that Switzerland will continue to remain free from the scourge of cholera.

CHOLERA IN ROUMANIA.

(FROM AN OCCASIONAL CORRESPONDENT.)

ALTHOUGH cholera has crossed to the Dobrudja side of the Danube—namely, Soulina and Czernavoda—it has not yet penetrated inland. Its progress seems to be slow when compared with the epidemic of 1865, but this, I assume, is owing to the strenuous measures being taken by the sanitary authorities at headquarters at Bucharest and to the powerful remedies which they now have at hand to combat the progress of the disease. Again, the sanitary laws are much more complete and effective than those which existed twenty-eight years ago and the population are more amenable to those laws now than formerly, inasmuch as they are now a well-educated people instead of a rough peasantry as in 1865. The means adopted and the regulations and instructions ordered by the head sanitary officer, Dr. Felix of Bucharest, are of the highest order and should be most effective if carried out in a proper manner at the different points of attack by the officials acting under him; but there, I fear, will be the weak point. As an example of this I may mention the following: Some two days ago orders were sent to Czernavoda to disinfect all passengers arriving from Braila; instead of this the official there disinfected all arrivals from Bucharest (down-river passengers), where no cholera exists, and allowed the up-river passengers from infected Braila to pass free. When remonstrated with he said "those were his orders and he could not alter it." It appears there was some mistake made in the telegram; still this official should have seen the error and acted differently.

In this immediate neighbourhood we have nothing approaching to cholera. We have a few cases of infantile summer diarrhœa, but nothing above the usual summer average of cases and much below, I should say, the usual mortality. There is a great sense of fear amongst the inhabitants, and of course when a case of bowel complaint is reported it is quickly magnified into something more

serious. In fact, yesterday one case was removed to the temporary hospital as a "suspected case," but the patient was found to be suffering only from ordinary enteritis. Our town is very clean and the water can be procured from a perfectly pure source if the inhabitants please to pay a little more for each barrel. House disinfection has become general and most of the householders have commenced boiling their drinking-water. The bathing season here has been quite spoiled. Only very few remain here now of those that came from the interior to stay until the end of September, and no further arrivals are expected; as a consequence, the hotels must suffer a serious loss. H.M.S. *Cockatrice* is in port here, having arrived some days ago from the Danube. All her crew are in good health, with the exception of the engineer in charge, who is suffering from typhoid fever, now in its twenty-third day. Dr. Felix is expected to soon arrange measures here should we unfortunately be attacked. His coming, however, cannot be early; for, although he seems to be indefatigably energetic, he appears to have enough to do in infected quarters. He seems to be everywhere—one day at Soulina arranging and counselling, the next at Braila, then away to Jassy, then up the Pruth, and then again to the Felesti nucleus of disease. He certainly earns his pay and deserves all praise.

Constanta.

A FURTHER REPORT ON EPIDEMIC INFLUENZA.

IT will be remembered that a report by Dr. Parsons upon the epidemic of influenza in 1889–90 has already been presented to the Local Government Board. The continued prevalence of that scourge rendered a further report upon, and examination into the nature of, the disease desirable. These papers have now been presented to Parliament, with an introductory notice by the medical officer Dr. Thorne Thorne. The statistical and general aspect of the disease has been dealt with, as in the first report, by Dr. Parsons, whilst its clinical and bacteriological features have been examined under the supervision of Dr. Klein.

The lengthened periods during which influenza in an epidemic form has been in abeyance have hitherto caused the malady on its reappearance to come as a surprise both to the laity and the profession. It finds us, however, at this epoch better equipped for investigation than on any former occasion, and there are some reasons for assuming that its future inroads will not be considered to be those of a "new acquaintance," as it was once termed, but of an "old enemy," which greater knowledge it may be hoped will enable us to combat more successfully than hitherto. In his digest of the statistical evidence Dr. Thorne Thorne remarks:—

"A study of Dr. Parsons's report shows distinctly that these epidemics followed different courses and that their incidence on locality varied considerably. So far as the metropolis is concerned, the 'influenza' death-rates in the three calendar years 1890, 1891 and 1892 were 146, 544 and 531 per 1,000,000 living respectively. But the onset of the last two epidemics was much less sudden than was the case in the winter of 1889–90; and whilst it is probable that there were fewer attacks in the more recent prevalences than in the first one, yet the later epidemics were both more protracted and more fatal. Whilst, however, this was the case in London, almost the opposite took place elsewhere, notably in Sheffield, where the first outbreak was mild and protracted, whilst the epidemic of 1891 was sudden, severe and fatal. No conditions of site, soil, climate, sanitary circumstances, occupation, or other, have yet been elicited which afford any satisfactory explanation of these differing incidences. At the same time there is some evidence pointing to the influence of a severe epidemic as serving to grant a certain immunity against another in the same locality. With regard, further, to the mortality occasioned by the disease in different communities, it is noteworthy that the rate of death due to influenza was substantially greater in rural and sparsely populated areas than in large towns. Thus, whereas in the metropolis and in ninety towns having populations varying from 20,000 to 80,000 each, the influenza death-rate varied from 0·52 to 0·58 per 1000 living this rate on nearly 3,000,000 people living in 192 rural sanitary districts reached 0·73 per 1000. This at first sight appears opposed to what might have been expected as regards a disease which has been held to be communicable from person to person; but it receives an explanation when it is remembered that the death-rate from influenza increases with advancing age, and that whilst so many of our rural areas have been more or less denuded of young people and adolescents, the old people have remained at home in their villages."

An important conclusion likely to be drawn from the report would seem to be that influenza is propagated from person to person. The main evidence to the contrary and in favour of the older view of atmospheric influence comes from Canada, where large tracts of country were attacked within so short a period that the evidence of personal contagium was not very convincing. To Dr. Parsons it seems clear "that the disease is transported by human agency and spreads from person to person mainly or solely." The important question as to the protective influence of an attack of influenza appears to be answered in the negative, although there is some evidence that a community which has suffered severely from an epidemic has acquired a certain amount of protection and is less likely to suffer severely on a return of the disease. The disease would seem to have been more fatal to males in middle and advanced life than to females, whilst children have enjoyed a comparative immunity. It is believed that the disease is communicable at a very early stage, "within a few hours of the commencement of the attack" (p. 60), and in the opinion of Dr. Caldwell Smith "the poison is most virulent when the temperature is at its highest and the power of infection lasts for eight days after the temperature has fallen to normal. If pneumonia occurs, influenza is still liable to be caused if a susceptible individual breathes the expired air of the person suffering from the pneumonia and if relapses occur with rises of temperature the influenza becomes again infectious."

Interesting and important as are these questions with a view to the prevention of the disease, no less interesting is that portion of the report which deals with its clinical and pathological features. The prolonged debility, lung affections, occasional resemblance to scarlet fever and many complications such as phlebitis, meningitis, peritonitis and pericarditis are touched upon, but to the physician in practice the important question is in the first place the diagnosis of the disease and in the second its clinical history and pathology. We cannot say that the diagnosis of an ordinary catarrh from influenza as set forth in the report (p. 62) is, to our mind, in any way convincing. The one diagnostic feature with which we entirely agree, and one observed in many cases, is that set forth as the eighth point by Dr. E. W. Barton of Market Rasen—namely, "influenza is followed by greater and more persistent prostration" than catarrh. From the condition of uncertainty there seems to be a reasonable prospect of rescue through the investigations of bacteriologists, although here also we feel constrained to add that some caution is necessary in accepting the very interesting conclusions of Dr. Klein and his coadjutors, for we do not yet know all the bacilli, noxious and apparently innocuous, which may temporarily or permanently live and move (or not move) and have their being in the human respiratory passages and elsewhere. Putting such criticism aside, however, it is of the highest interest to learn that in only a very small proportion of cases did Dr. Klein find bacilli in the blood, and he states that, unless the experience in a single case, where a successful cultivation was obtained must be regarded as invalidating the general conclusion, there would seem to be only one explanation of the observed facts—viz., *that any bacilli of influenza that may gain access to the circulation lose here their vitality and are present in the blood only as dead bacilli.* (The italics are his.) Whether, however, dead bacilli in the circulation may not be a cause of disease is another question, and the widespread, almost universal, disturbances which the physician has opportunities of observing as sequelæ of influenza would point to some change only capable of conveyance and explanation by that universally circulating fluid. Rare, however, as was the discovery of the bacillus in the blood, it appears to have been the rule—not the exception—to find in the bronchial sputum of patients suffering from influenza a bacillus which Dr. Klein and his colleagues incline to regard as pathognomonic. This is a very important statement and we make the following transcript:—

"R. Pfeiffer (*Deutsche Medicinische Wochenschrift*, No. 2, 1892) was the first who made the announcement that, in all cases of influenza, there are present in the characteristic grey purulent bronchial secretion enormous numbers of minute non-

mobile bacilli. He describes these as occurring only during the acute stages and gradually diminishing in numbers as the disease abates. The bacilli, he tells us, are very minute, about the thickness of the well-known bacilli of Koch's mouse septicæmia, but only half their length; they stain with some difficulty in aniline dyes, requiring a somewhat prolonged application of the dye. In stained specimens, these bacilli have a characteristic appearance, inasmuch as their protoplasm is segregated into a stained granule at each end, whilst the middle portion remains unstained and shows only the outline of the sheath. Thus the bacillus looks like a diplococcus, and where two such bacilli are placed end to end they look like a chain (streptococcus) of four spherical cocci. In the sputum these bacilli occur in smaller and larger masses, occasionally almost as a pure culture. In severe cases they form continuous masses in the peribronchial tissue and also in the subpleural lymphatics, and they are also met with inside the leucocytes of the sputum. As the disease passes off so the bacilli disappear from the sputa. These bacilli are constantly present in the influenza, but do not occur in the bronchial secretion of other bronchial or pulmonary affections.

"Kitasato, in the same paper, gives his observations on the cultivation of these bacilli of Pfeiffer, and records that they have culture characters by which they can be readily distinguished from other bacilli; that they are, in fact, a definite species not occurring in any disease except in influenza. They do not thrive at temperatures below 28° C.—that is to say, at temperatures at which nutrient gelatine still keeps its solid condition. They grow well in broth and on glycerin agar at 37° C. or thereabouts. The broth does not become turbid, but remains limpid. The growth in broth appears as whitish small granules and flocculi; on glycerin agar the bacilli form minute translucent colonies like droplets, having no tendency to coalesce as growth proceeds. The cultures are also characterised by the fact that they soon die, and therefore subcultures cannot easily be carried on through many generations. In stained specimens grown in cultures the bacilli retain the same characters observed in the bacilli of sputum—viz., they show the characteristic bipolar staining.

"These statements and observations of Pfeiffer and Kitasato are very definite, and if confirmed would afford strong reason for believing that in these bacilli we had found the special microbe of influenza. The life history of this microbe would conform with what we believe to be the facts about the contagium of influenza, its being spread and received by the organs of respiration and the reception of the infection by the same channel; the presence in most cases of influenza of some kind of bronchial disturbance more or less pronounced, showing itself at the outset of the disease or a few days later and increasing after the febrile stage of the complaint had been passed.

"From our own observations of a large number of cases, including those to be immediately recorded, we find ourselves in a position to confirm the statements of Pfeiffer and Kitasato in all essential points; and accordingly we have arrived at the conclusion that the particular bacilli as described by them ought to be regarded as the specific microbe of influenza."

The report is illustrated by a series of instructive micro-photographs and is altogether well worthy of the high reputation of those engaged in its issue. Our confidence in the accuracy of their researches and conclusions is not diminished by the following judicious remarks.

"The German authorities point to this species of bacillus as being the microbe of influenza; the material by which the disease is communicated from person to person, and without which the disease would not exist. Very probably they are right; but there remain some other facts to be learned before the demonstration of this bacillus as the materies morbi of influenza can be considered as complete. It would be well to have evidence respecting those cases of influenza which are characterised less by disordered secretion of the bronchi than by disordered secretion of the mucous membrane of the intestinal tract or elsewhere; whether the bacillus exhibited in those other mucous secretions the same constancy and abundance during the acute stage of disease and the same diminution and disappearance as the disease abates as have been recorded for the bronchial mucus. It goes without saying that what we now most specially want, for the demonstration of this bacillus as the materies of influenza, is evidence that this particular microbe does not occur in any other disease than influenza, and Pfeiffer and Kitasato would go so far as to assert this as a fact. Our own researches have not led us to doubt it, and we have only to give the obvious caution that not sufficient time has yet elapsed since Pfeiffer's discovery and identification of the microbe to establish their assertion, and perhaps we are as yet hardly safe in denying the presence of his bacillus elsewhere than in influenza."

THE ARMY MEDICAL DEPARTMENT REPORT, 1891.

III.

As regards the sickness and mortality amongst the troops quartered in large camps as compared with those stationed in large towns in the United Kingdom, it may be remarked that the admission-rate amongst the men in camps is 25·7 per 1000 in excess of those quartered in towns, but the death-rate is rather higher amongst men in towns than in camps, being 5·26 and 4·23 per 1000 respectively. The highest admission-rate in 1891 in any arm of the service was 900·0 per 1000 in the Infantry, the next being 848·0 in the Footguards and the lowest in the Garrison Staff and Departments. Taking ten years' average, however, the highest admission-rate was in the Footguards and the lowest was in the Royal Engineers. The greatest mortality (6·91 per 1000) was in the Royal Engineers and the lowest death-rates were 3·24 and 3·97 per 1000 in the Household Cavalry and Cavalry respectively. Turning to the subject of recruiting there were 61,322 recruits inspected during the year; of these, 23,231, equal to a ratio of 378·83 per 1000, were rejected as being medically unfit. Amongst the most frequent causes of rejection were defective chest measurement, defective vision and defective weight. Very nearly half of the recruits who were proved to be fit for service in the army were between eighteen and nineteen years of age. We now pass on to the army serving abroad. As regards the health of the garrisons of Gibraltar and Malta there is nothing very noticeable. Cyprus appears as usual to have been healthy. Bermuda was also healthy during 1891. As was remarked by the senior medical officer, it is a matter of congratulation that the regiment of Guards, arriving as they did at almost the most unhealthy season and composed of young soldiers, should have escaped so lightly, and that the King's (Liverpool) Regiment had so few cases of fever during its first year of service in these islands. Mauritius was unhealthy. Enteric fever caused 29 admissions and 9 deaths, being in the ratios of 50·0 and 15·22 per 1000 respectively. The senior medical officer remarks that it was the most serious outbreak of typhoid fever that had occurred amongst the troops in the island. The percentage of mortality to attack was 31·0 as compared with 12·5 in 1890. A special commission was held as to the causes of this outbreak, but we are furnished with no report or details. Although there has been a considerable diminution in the prevalence of malarial fevers in Mauritius of late years, they still cause a very large part of the total number of admissions, and in the opinion of the senior medical officer nine-tenths of this form of sickness, invaliding and inefficiency were due to residence in Port Louis and Fort George. The force in Mauritius is a small one (580) and the cases comprised 58 of ague and 150 of remittent fevers. From Egypt we learn that the general health of the troops in 1891 was very good and that the mortality was the lowest since the occupation of the country ten years previously. The principal medical officer is of opinion that a great factor in this result was undoubtedly the presence of seasoned troops in the command during that year. The following table shows the amount of sickness and mortality in Cairo and Alexandria respectively.

—	Average strength.	Admissions.	Deaths.	Ratios per 1000.	
				Admissions.	Deaths.
Cairo	2292	2101	18	916·7	7·85
Alexandria	880	1040	3	1181·8	3·41

As in the previous year the sick ratio is much higher at Alexandria than at Cairo, but the mortality is lower. Comparing the ratios at each station with the corresponding ones in 1890 it is observed that in Cairo the admission-rate has increased by 3·5 and the death-rate by 1·34 per 1000, but at Alexandria there was a slight decrease (3·8 per 1000) in the ratio of admission and a very large one (23·12 per 1000) in that of mortality. This improved condition of things is attributed to the comparative immunity of the garrison from typhoid fever. As compared with the rates of previous years, typhoid fever showed a considerable decline. This fever caused 40 admissions and 9 deaths, being in the ratios of 12·6 and 2·84 per 1000 respectively—a remarkable decrease from the five years' average rate of admission and mortality from this cause.

A large portion of the report is devoted, as usual, to the health or vital statistics of the troops serving in India. The average annual strength of the European force stationed in the three presidencies of Bengal, Madras and Bombay in 1891 amounted altogether to 66,178. Of this force there were 1387·3 per 1000 of mean strength admitted to hospital, 16·35 died, 27·09 were invalided home, 15·50 were discharged, 80·22 were constantly sick and the average duration of each case of sickness was 21·05 days. The highest death-rate (17·36 per 1000) was in the Bengal command, and it was the lowest in the Madras and Bombay commands—viz., 14·78 per 1000. The death- and constantly sick-rates in 1891 were above those of the previous ten years' average. We have already anticipated a great deal of what might be said on the health of the troops serving in India in 1891 in our notice of the report of the Sanitary Commissioner with the Government of India for that year. It necessarily happens that the same subjects recur in army medical reports, and the same points are prominently brought forward each year; and it would be difficult, and not very interesting probably, to go over subjects that have been illustrated and dwelt upon so frequently that they may be considered to be pretty well established. Age and length of service in relation to health generally, and in relation to typhoid fever especially, have been discussed until they have become monotonous. The diseases to which the soldier is liable in India, the geographical distribution of many of these diseases, and the relative value of the soldier's life and his vulnerability to them in relation to his age and length of service in that country have been set forth by statistical evidence. What we want now is more precise information as to the exact nature and causes of the maladies to which the European soldier is liable in India, to be obtained through the instrumentality of specially trained observers, aided by the methods and appliances of modern research in properly equipped laboratories. The Sanitary Commissioner with the Government of India has himself pointed this out, and we agree with him. Such investigations should go hand-in-hand with clinical and etiological observations. There are some other points, however, to which we may briefly advert. We notice that, although the inefficiency from venereal diseases is still very large in the army of India, it shows a marked reduction on the figures of the previous year. The principal medical officer, alluding to the considerable improvement that has taken place in 1891 in this respect, says that the returns imply, nevertheless, a greater virulence in the constitutional form of the disease. The subject is one of interest at the present time in connexion with the inquiries which have recently taken place. That the Lock hospital system in India exercised a restraining influence on the spread of these diseases is no doubt true, although it may not have realised all that it was expected to have achieved in this direction. The operation of the short service system in our army in India has no doubt exercised a considerable influence. We shall be glad to learn the effect which a voluntary Lock hospital system and the establishment of a number of useful institutions and social reforms in cantonment life may have in diminishing the prevalence of these diseases. In turning over the report in search of information about diarrhœa, dysentery and abscess of the liver we noticed in the Bengal section that 13 cases of abscess of the liver were operated on, only 2 recovering and 11 terminating fatally. Brigade-Surgeon-Lieutenant-Colonel Stevenson, Professor of Military Surgery, in his paper on the operations performed at Netley, has also an interesting reference to two cases of abscess of the liver. Both had a history of dysentery, but in the case which recovered after operation it is added that "it is probable that the liver abscess was not a pyæmic one due to dysentery, but rather a result of the attacks of hepatitis from which the patient suffered in India." We may take occasion to remark here, as a consideration of some practical value, that a distinction should always be drawn between abscess of the liver which is the result of dysentery and septic in character and that which is unconnected with and independent of dysentery. In the former there is the history of dysentery, the hepatic disease is part and parcel of it and it is anatomically brought about by way of the portal circulation, being preceded by constitutional disturbance, and the abscess is generally multiple and very frequently proves fatal; whereas the liver abscess which is unconnected with dysentery is generally single and large, is frequently attended with little or no constitutional disturbance—at any rate of a grave kind, and is not nearly so fatal as that which is a sequela of dysentery. When the existence of an abscess of the liver has been diagnosed surgical treatment is alone worth thinking about, and it may be regarded as likely to prove successful where a single abscess has to be dealt with, as is usually the case in one form of the disease and is sometimes the case where the abscess follows dysentery. It is fortunately common enough for persons to contract dysentery without its leading to abscess of the liver; but when it does do so the suppuration is septic in kind and there are usually multiple abscesses, and it stands to reason that surgical treatment is far less likely to be successful. We hope to deal in an early issue with the papers in the appendix and to conclude our notice of this report.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

The Sanitary Circumstances of the Monmouth Registration District.—Owing to the persistent prevalence of diphtheria in this district for some years past, Dr. Wilfred Fletcher was instructed to inquire into its sanitary condition. The district in question comprises the Monmouth urban and rural and the Coleford urban sanitary districts. In the first-named districts numerous and serious sanitary defects were discovered. Amongst them we may mention badly constructed and ill-ventilated sewers, house drains which were "honeycombed by age and rat-holes," and privy pits which were so full that "pressure on the boards caused the filth to well up at the sides." There is little wonder that, amidst surroundings such as these, diphtheria, when once introduced, should persist, since, whatever may be the direct relation between this disease and insanitary conditions, few differ as to the ability of the diphtheria bacillus to flourish upon throats which are already inflamed from other causes. Dr. Fletcher concludes this part of his report by stating that "the whole sanitary condition of the place indicates either indifference to the sanitary requirements of the town, or a culpable neglect." In the Monmouth rural sanitary district the circumstances which are revealed are very far from being satisfactory. Although no overcrowding came actually under Dr. Fletcher's notice, the views of the sanitary authority of what constitutes overcrowding would seem to require correction. They apparently regard 200 cubic feet as sufficient for an adult and 100 for a child; in addition to this they seem to be quite satisfied to allow six men to occupy a room of 600 cubic feet capacity where three of the men are at home by night and three by day (three "Boxes" and three "Coxes," it would seem). In many parts of the district the water-supply is open to grave suspicion, and it would appear that the provisions of the Public Health (Water) Act, 1878, have never yet been put into force. It is, however, in connexion with the schools in this district that diphtheria seems to have spread, and, although probably under these circumstances the disease is propagated to a large extent by personal contact, the sanitary conditions which exist at some of the schools in the district are such as to call for immediate attention. At Whitchurch we read of a heap of refuse which was removed from one of the privies being allowed to remain under the schoolroom windows for a long period, and at Clearwell of neglected, dirty and broken hopper closets without flushing arrangements. In the Coleford urban district the prevalence of diphtheria was also apparently due to

school influence; and here, again, Dr. Fletcher says that at one of these schools new privies were being built in such a manner "that they are almost certain to give rise to nuisance in the future." In another school we hear of trough closets with the flushing apparatus out of order. These are serious conditions to be discovered in our public elementary schools, and the question naturally arises as to where the responsibility rests. It would appear that in some of these cases there is a lack of intelligent supervision on the part of the master or mistress of the school. It is difficult to understand how, if a personal visit were made daily to the closets, such gross neglect as is here revealed could continue. It would seem to us that circumstances such as these might well be brought under the notice of the Education Department. In Dr. Fletcher's account of the progress of diphtheria in the registration district some interesting points are brought out—e.g., the case of a child who was convalescent of diphtheria, but suffering from paralysis of the soft palate, having apparently started a series of cases. This fact is of interest in view of Roux and Yersin's discoveries as regards the persistence of the diphtheria bacilli in the throats of children from whom all traces of membrane have disappeared. The report concludes with some excellent recommendations to the several sanitary authorities of the registration district and it is to be hoped that they may be speedily acted upon.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Enteric Fever in the Stockport Urban Sanitary District.—A recent outbreak of enteric fever in the district has formed the subject of a special report by Dr. Charles Porter, the medical officer of health. It appears that between the middle of last June and Aug. 7th there were 88 cases of this disease reported, and that 15 deaths resulted. The incidence of the disease varied considerably in the different wards, there being 41 cases in Edgeley, as against 4 in Portwood; but unfortunately the population of these wards is not given. The epidemic seems to have reached its acme during the week ending July 30th, when there were 26 cases notified. Dr. Porter noticed an exceptional grouping of cases around the highest points of some of the main sewers, which have very steep gradients; and it is interesting to consider what may have been the relation between the escape of sewer air, which undoubtedly (according to the report) took place at the highest levels, either through the street ventilators or into the houses through defectively ventilated closets &c, and the localised outbreak of enteric fever. Dr. Porter also traced some interesting relations—as regards, at any rate, time—between the introduction of enteric stools into the privies and a subsequent outbreak amongst the people who frequented these privies. Several of the houses in which typhoid fever occurred were quite unprovided with drainage, and in others, though drains existed, they were in a most defective condition. It appears that the sanitary authority have recently appointed a building inspector, and certainly, to judge from the report, the appointment was not made before it was needed. Dr. Porter has ably brought home to his authority the great importance of remedying the conditions which he describes, and it is gratifying to hear that the authority have determined to take action upon his report. Although there seemed to be slight suspicion in the case of one of the milk-supplies, there is no reason to regard the recent outbreak as being in any way caused by milk, and it was not possible to establish any connexion between the water-supply and the outbreak. The advice which Dr. Porter gives his authority strikes us as being on the whole peculiarly happy. Amongst other things he recommends the thorough ventilation and flushing of sewers, and when street ventilators are not desirable he advises ventilation shafts at least six inches in diameter. To prevent the concentration of sewer air at the highest levels of sewers he recommends tumbling bays with the usual accompaniments.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 6510 births and 4515 deaths were registered during the week ending Aug. 19th. The annual rate of mortality in these towns, which had declined in the preceding four weeks from 25·1 to 20·9 per 1000, rose last week to 22·8. In London the rate was 22·5 per 1000, whilst it averaged 23·1 in the thirty-two provincial towns. The lowest rates in these towns were 13·6 in Halifax, 14·1 in Birkenhead, 15·3 in Bristol, 17·4 in Plymouth and 17·6 in Bradford; the highest rates were 26·2 in Burnley 26·9 in Blackburn, 27·1 in Liverpool, 31·0 in Hull and in Sunderland and 33·1 in Preston. The 4515 deaths included 1066 which were referred to the principal zymotic diseases, against 1116 and 974 in the preceding two weeks; of these, 629 resulted from diarrhœa, 100 from whooping-cough, 92 from measles, 81 from diphtheria, 78 from scarlet-fever, 76 from "fever" (principally enteric), and 10 from small-pox. The lowest death-rates from these zymotic diseases were recorded in Huddersfield, Plymouth, Derby, Cardiff and Bristol; the highest rates in Preston, Sheffield, Sunderland, West Ham, Blackburn and Hull. The greatest mortality from measles occurred in Sheffield and Blackburn; from whooping-cough in Norwich, Croydon and Swansea; from "fever" in Birkenhead, Hull, Liverpool and Preston; and from diarrhœa in Wolverhampton, Burnley, Preston, Brighton, Sheffield, West Ham, Gateshead, Blackburn, Sunderland and Hull. The death-rate from scarlet fever did not reach 1·0 per 1000 in any of the thirty-three towns. The 81 deaths from diphtheria included 63 in London, 5 in West Ham and 3 in Leeds. Four fatal cases of small-pox were registered in Bradford, 3 in London, 2 in West Ham, and 1 in Birmingham, but not one in any other of the thirty-three towns; 209 cases of this disease were under treatment in the Metropolitan Asylum Hospitals and in the Highgate Small-pox Hospital on Saturday last, against numbers declining from 570 to 221 at the end of the preceding fourteen weeks; 26 new cases were admitted during the week, against 40 and 26 in the preceding two weeks. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 2891, against 2965, 2944 and 2875 on the preceding three Saturdays; 365 new cases were admitted during the week, against 341 and 318 in the preceding two weeks. The deaths referred to diseases of the respiratory organs in London, which had been 208 and 201 in the preceding two weeks, rose to 203 last week and were 27 above the corrected average. The causes of 79, or 1·7 per cent., of the deaths in the thirty-three towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Croydon, Cardiff, Oldham, Bradford, Sunderland, Newcastle-on-Tyne, and in five other smaller towns; the largest proportions of uncertified deaths were registered in Liverpool, Bolton, Leicester, Salford and Blackburn.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 19·4 and 19·7 per 1000 in the preceding two weeks, declined to 18·5 during the week ending Aug. 19th, and was 4·3 per 1000 below the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 1·5 in Edinburgh and 17·0 in Glasgow to 22·6 in Paisley and 24·5 in Dundee. The 521 deaths in these towns included 54 which were referred to diarrhœa, 23 to whooping-cough, 15 to measles, 7 to scarlet fever, 7 to diphtheria, 4 to "fever," and not one to small-pox; in all, 110 deaths resulted from these principal zymotic diseases, against 80 and 114 in the preceding two weeks. These 110 deaths were equal to an annual rate of 3·9 per 1000, which was 1·5 below the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of diarrhœa, which had been 57, 52, 28 and 40 in the four preceding weeks, rose to 54 last week, of which 20 occurred in Glasgow, 12 in Edinburgh and 9 in Dundee. The deaths from whooping-cough, which had shown a considerable increase on recent weeks, declined last week to 23 and included 14 in Glasgow and 6 in Dundee. The 15 deaths from measles showed a further increase last week; 6 occurred in Greenock and 5 in Glasgow. The deaths from scarlet fever, which had been 8 and 10 in the preceding two weeks, declined to 7 last week and included 3 in Glasgow and 3 in Edinburgh. The 4 deaths from "fever," 2 of which occurred in Glasgow and 2 in Paisley, were less than in either of the five preceding weeks. The fatal cases of diphtheria, which had been 5, 5 and 10 in the preceding three weeks, were 7 last week and included 2 each in Glasgow and in Edinburgh. The deaths referred to diseases of the respiratory organs, which had been 80 and 81 in the two preceding weeks, were 89 last week and exceeded by 13 the number in the corresponding week of last year. The causes of 39, or more than 7 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had declined from 30·3 to 26·1 per 1000 in the preceding four weeks, rose to 26·7 during the week ending August 19th. During the past seven weeks of the current quarter the death-rate in the city has averaged 27·6 per 1000, against 21·7 in London and 17·4 in Edinburgh. The 179 deaths registered in Dublin during the week under notice showed an increase of 4 over the number in the previous week and included 31 which resulted from the principal zymotic diseases, against 41 in each of the preceding two weeks; of these, 12 were referred to diarrhœa, 10 to "fever," 7 to whooping-cough, and 2 to measles, but not one either to small-pox, scarlet fever, or diphtheria. These 31 deaths were equal to an annual rate of 4·6 per 1000, the zymotic death-rate during the same period being 4·9 in London and 3·9 in Edinburgh. The fatal cases of diarrhœa, which had been 35, 27 and 30 in the preceding three weeks, declined to 12 last week. The deaths from different forms of "fever," which had increased from 1 to 5 in the preceding three weeks, further rose to 10 last week. The fatal cases of whooping-cough, which had been 4 and 5 in the preceding two weeks, rose to 7 last week. The 179 deaths in Dublin last week included 40 of infants under one year of age and 34 of persons aged upwards of sixty years; the deaths of infants showed a decrease of 22 and were the fewest recorded during the current quarter; the deaths of elderly persons also showed a slight decline. Eight inquest cases and seven violent deaths were recorded last week; and 59, or very nearly one-third, of the deaths occurred in public institutions. The causes of 16, or nearly 9 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

MOVEMENTS IN THE MEDICAL STAFF.

SURGEON-CAPTAIN PENTON has embarked to rejoin the Egyptian Army after leave of absence. The following officers have reported themselves in their several districts on return from leave: Surgeon-Majors Hunt and Carter, Woolwich; Brigade-Surgeon-Lieutenant-Colonel Ferguson and Surgeon-Major Macnamara, Southern District; Brigade-Surgeon Adcock, retired, and Surgeon-Lieutenant-Colonel Bridges, Eastern District; Surgeon-Captain Stuart, Aldershot; Surgeon-Captain Irwin, Gibraltar; Surgeon-Captain Dick, Singapore. The following officers have arrived at Aldershot for special duty during the manœuvres: Surgeon-Captain Smith and Surgeon-Lieutenant Longhurst from Portsmouth, and Surgeon-Lieutenant Mansfield from the Eastern District.

ARMY MEDICAL STAFF.

Surgeon-Colonel J. Warren, of the Army Medical Staff, Principal Medical Officer, Bombay, is promoted to the rank of Surgeon-Major-General on the retirement of Surgeon-Major-General Charles Dodgson Madden. The undermentioned Surgeons on probation, whose names appear in our report of the prize distribution at the Army Medical School, Netley, in our issue of Aug. 5th, are now gazetted as Surgeon-Lieutenants: Charles George Spencer, M.B.; Charles Edward Percy Fowler, F.R.C.S. Eng.; Thomas Herbert John Chapman Goodwin; Harry Edwin Bruce Porter; Alfred Ernest Conquer Keeble; Arthur James Lattey; Denis Joseph Collins, M.B.; St. John Browne Killery; Herbert Cumming French; Walter Woodbine Smith; William Pearson Barter; Ernest Montgomery Williams; James Robert McMunn; John Buckle Anderson.

INDIA AND THE INDIAN MEDICAL SERVICES.

The services of Brigade-Surgeon-Lieutenant-Colonel W. P. Warburton, M.D., are placed at the disposal of the Government of India in the Military Department. Surgeon-Captain H. R. C. Barber is appointed to officiate as Civil Surgeon of Jullundur. Surgeon-Captain H. B. Melville, M.B., I.M.S. (Bengal), is appointed to be a Supernumerary Civil Surgeon, 2nd Class, and to be posted to the Medical Charge of the Banda District. Surgeon-Lieutenant W. Young, I.M.S. (Bengal), is appointed, until further orders, to be Civil Surgeon of the North Lushai Hills. The services of Surgeon-Captain D. T. Lane, M.D., I.M.S. (Bengal), are placed temporarily at the disposal of the Government of the Punjab. The services of Surgeon-Captain H. M. Morris, I.M.S. (Bengal), are placed temporarily at the disposal of the Government of Bengal. Dr. Jenkins, medical officer, Maler Kotla State, has, it is stated, been retired from the service of the State with a gratuity of one month's pay for every completed year of service in the State.

NAVAL MEDICAL SERVICE.

The following appointments are announced:—Fleet-Surgeons: Alfred W. Whitley to the *Pembroke*, Valentine Duke, B.A., M.B., to the *Hibernia*, Richard A. Mowll to the *Dreadnought*, Robert Turner to the *Duke of Wellington* and G. D. Twigg to the *Thunderer*. Staff-Surgeons: Francis R. M. Lofties to the *Trincomalee*, George S. Smith to the *Euphrates*, George W. Bell to the *Magicienne*, Archibald M'Kinlay to the *Melampus* and A.C. Queely to the *Warspite*. Surgeons: Hamilton E. Earle to the *Hibernia*, Philip N. Randall, M.B., to Chatham Dockyard, Arthur S. G. Bell to the *Aurora* and Jeremiah Sugrue, M.D., to the *Buzzard*. Surgeon and Agent: James W. Stephen at St. Dogmaels and Aberforth.

HONOURABLE ARTILLERY COMPANY OF LONDON.

Surgeon-Lieutenant Henry George Read to be Surgeon-Captain.

VOLUNTEER CORPS.

Artillery: 2nd Glamorganshire: Surgeon-Major C. T. Vachell, M.D., to be Surgeon-Lieutenant-Colonel.—*Rifle:* 5th (Irish) Volunteer Battalion, the King's (Liverpool) Regiment: Surgeon-Lieutenant T. G. Garry, M.D., resigns his commission.—3rd Volunteer Battalion, the South Staffordshire Regiment: Surgeon-Captain Vincent John Magrane is appointed Captain.

PRESENTATION OF AMBULANCE CERTIFICATES.

At Crickhowell, Brecknockshire, on Saturday last, the Army Ambulance certificates were presented to the recruits of the regimental bearer company of the 1st Volunteer Battalion, South Wales Borderers. Previously to the presentation the company, under the command of Surgeon-Major Hill, had been put through several movements in stretcher-bearer drill, which were witnessed by an assembly that took great interest in the manœuvres. At the close of the proceedings Surgeon-Major Hill presented Miss Bailey, daughter of Sir R. Bailey, Bart., Honorary Colonel of the regiment, who presented the prizes, with an address, thanking her for her presence.

MEDICAL OFFICERS IN INDIA.

A report has obtained currency that, owing to the comparatively small number of medical officers due for relief in India this season, it has been found necessary to call for volunteers from the Indian Medical Service for duty on board the home-coming troopships. We understand there is no foundation for this report. The deficiency of officers, if it exists, will be supplied by officers of the British Medical Service, who, though not entitled to relief, have completed the longest period of their regular tour.

ARMY EXAMINATIONS.

Medical officers, amongst other people, frequently educate their sons for the Army and send them up for admission to the Royal Military Academy, Woolwich, or the Royal Military College, Sandhurst. Consequently they may be interested in having their attention directed to a recently issued special Army Order notifying that the preliminary examination of candidates for commissions in the Army will be abolished after the one announced for September next has been held.

THE PAYMENT OF THE FEES OF MEDICAL OFFICERS IN INDIA.

A good deal of discussion has arisen from time to time in regard to the fees to be paid by native chiefs and gentlemen of high position in a native State in return for professional services rendered by medical officers in Government employ. The Indian Government have published in a recent *Gazette* some important regulations on the subject laying down the method of procedure to be followed, the powers of the local government in ordinary cases, and the circumstances under which exceptional cases are to be submitted for the consideration and orders of the Government of India.

THE RUPEE.

It is said that the delay which took place whilst the question was under the consideration of Lord Herschell's Committee has proved a source of embarrassment to the Indian Government. Be this as it may, we think that medical officers and others serving in India and having to send remittances home to their families may be congratulated on the decision that has been arrived at. Government servants

will now be compensated for the loss to which they have been subjected. The scheme, according to an announcement in *The Times* of the 21st inst., makes an allowance sufficient to enable each officer to remit to Europe one-half of his salary, subject to a maximum limit of £1000 yearly, at the privileged rate, which is fixed for the present at 1s. 6d. the rupee.

ALDERSHOT AND THE ARMY MANŒUVRES.

A large force has been assembling at Aldershot with a view to taking part in these manœuvres, which are to be held on the borders of Berkshire and Wiltshire. We trust, after all the discussion that has taken place, that an opportunity will be given to the Army Medical Service to rehearse the part which they would have to play in case of actual war in making field, hospital and transport arrangements for the sick and wounded. The health of the troops at Aldershot has of late attracted some attention owing to the exceptionally hot weather, the occurrence of several cases of typhoid fever amongst men occupying huts in the North Camp and the alleged insanitary condition of the sewage farm.

Correspondence.

"Audi alteram partem."

"REGISTRATION OF MIDWIVES."

To the Editors of THE LANCET.

SIRS,—The Select Committee on the Registration of Midwives has sat and reported, and so far as can be judged from the evidence the country is about as wise as it was before it sat. Now, I was instrumental in obtaining a return relative to statistics and the regulations under which midwives are allowed to practise in other countries, and I think that a careful perusal of this return, which is headed "Stillbirths in England and other Countries," will repay the reader. Dr. Rentoul drew up the questions relating to stillbirths, and I was responsible for the other three relating to midwives and the death-rate from puerperal troubles. The Select Committee apparently have not thought it worth while to ascertain the results of recognising midwives' practice, but I think it should be understood that the death-rate in the countries where such recognition obtains is higher than in those where it does not. In Germany deaths and stillbirths are carefully registered, and midwives practise under strict regulations; yet the puerperal death-rate varies from 7·2 in Baden to 5·14 in Bavaria, and in Prussian towns the death-rate from puerperal fever alone is 2·7 per 1000 births (still and live). In Ireland, again, where much attention is paid to the training and certificating of midwives the rate is as high as 7·1 per 1000 of the average number of live births. In this country the rate apparently accepted is 4·9, and judging from the statistics of my own district and other sources I believe this to be approximately correct; yet we are asked to believe that by registering midwives our death-rate will be considerably diminished. I cannot close my letter without reference to the want of information possessed by the Registrar-General. Whilst Germany is able to give very full statistics our official states that he has *no* information as to the rate per 1000 of women who die in their confinements or in the four weeks immediately following, and with reference to the question, "Is the bulk of midwifery practice in their hands?" he can only refer to a most inaccurate estimate given in a paper which was read to the Obstetrical Society in 1869—i.e., twenty-four years ago.

I am, Sirs, yours truly,

Hatfield, Aug. 20th, 1893. LOVELL DRAGE.

"NERVOUS SEQUELÆ OF INFLUENZA."

To the Editors of THE LANCET.

SIRS,—There are some nervous conditions following influenza not specifically mentioned in Dr. Gowers' lecture upon the nervous sequelæ of this disease. A patient has apparently recovered from his attack when some weeks or months afterwards, perhaps after some over-exertion or chill or even without any discoverable cause, he is suddenly seized with symptoms exactly like those of a mild apyrexial attack of influenza. There are the same prostration and pains so that the patient thinks he has recontracted influenza. In two or three days or sometimes within twenty-four hours he recovers and feels just as well as before the attack. There is little doubt in these cases that certain parts of the nervous system whose nutrition has been depressed by the poison of influenza have broken down under some extra strain or accumulated effect. Sometimes prostration will appear with slight or no pain. In the same way and probably for the same reason, after the acute attack has passed off, those secondary nervous symptoms due to a disturbed action of the nerve centres upon surrounding parts are apt to reappear—such as fainting (mentioned by Dr. Wilks), dyspnœa (due probably to pulmonary vaso-motor disturbance) and so on. Besides these groups of sequelæ which may be clearly traced to the effect of the poison, troubles arise after influenza evidently due to the disease, but not related to symptoms of the acute attack in the most varied parts of the body in different patients. It is difficult to explain these cases except by assuming that the poison is capable of profoundly affecting any part of the body which is not in good condition—that is, in a good state of nutrition. These irregular phenomena may occur at any time after the beginning of the disease and when they appear after the acute attack has passed off would, according to Dr. Gowers, be called "sequelæ." They evidently depend largely upon some peculiar condition of the patient and might be called idiosyncratic as opposed to specific. The interesting rheumatoid cases given by Dr. Gowers would come under the idiosyncratic group of sequelæ; they would seem to illustrate how influenza by its depressing powers upon weak points is able to light up morbid processes which might otherwise have lain dormant. The damaged parts will of course be liable to assume an inflammatory condition, reparative or destructive, and so will arise the more obvious sequelæ. Important and interesting as these last are, the less evident conditions when actual inflammation does not supervene are at least as worthy of attention; they are certainly much more common.

I am, Sirs, yours truly,

Aug. 22nd, 1893. THOMAS GLOVER LYON.

A CASE ILLUSTRATING THE EFFECT OF GUNSHOT INJURY.

To the Editors of THE LANCET.

SIRS,—Notes of the following gunshot wound which was seen by me may be of some interest. On July 25th I was called (not in my medical capacity, but as the nearest Justice of the Peace) to inspect the body of a young Dutch farmer, who was supposed to have shot himself—in other words, to act as coroner. On arriving at the house, which was about three miles from my residence, after asking a few questions from those who had seen the deceased shortly before his death, I proceeded to the room in which the body, still undisturbed, was lying. On entering the room I found a bed on the right-hand side, with its head near the door, lying under and across the window. Near the end of the bed were portions of brain tissue, and behind and above this there was a hole in the window curtain and pane of glass. Lying at the foot of the bed was the right hemisphere of the brain, looking as if it had been cleanly divided from the other half by a knife; the cerebellum was blackened with gunpowder. About half a foot to the left of this was the body, lying on its face, with a gun right under it and a small walking-stick slightly to the right side; the legs and arms were extended. Just a few inches to the right of the body and near the shoulder was the left hemisphere of the brain, also appearing as if it had been divided by a knife. On raising the body a huge gap was seen in the forehead above the root of the nose and extending back to the occipital bone, just above the protuberance of which was a jagged opening, through which the bullet had evidently passed. Pieces of bone and brain were scattered about the room. It was proved that just before the report of the gun was heard he was walking from room to room with the gun (Martini-Henry) in his hand. He had evidently sat on the bed, with his back to the window, had placed the muzzle to his forehead, and had pulled the trigger with the walking-stick which was found near him. He must have at once rolled over between the foot of the bed and the chest-of-drawers on to his face, the halves of the brain falling out as he did so. There was no blackening of the forehead or of the root of the nose; the muzzle was probably placed too tightly to the forehead. The right eye was blown out, but not the left.—I am, Sirs, yours faithfully,

CHAS. WM. BROWNE, M.R.C.S.Eng., L.S.A., J.P.,
Formerly Resident Medical Officer, Metropolitan Free Hospital and St. Marylebone General Dispensary, London.
Bushmanskop, District Wepener, Orange Free State, South Africa, July 26th, 1893.

HYPERPYREXIA IN SCARLET FEVER.

To the Editors of THE LANCET.

SIRS,—On Aug. 1st I saw a schoolboy aged eight. He was found to be suffering from a typical attack of simple scarlet fever. The rash was extremely well marked, the tonsils were red and swollen, with a few slightly enlarged glands in the neck, and the temperature was 101°F. On Aug. 4th the rash had disappeared, the throat was much improved, no ulceration having taken place, and perspiration was free. He asked for solid food and comic papers, which were refused. The temperature was ranging between 99° and 100°. The patient continued in practically the same condition for the following six days, his temperature often falling to normal. On the morning of Aug. 9th there was a decided change; the temperature rose to 103°, there being a dry skin, thirst and constipation. An aperient was administered and after a fair motion the temperature fell to 101·2°. The next morning, however, it was again 103·4°, but the patient said that he was quite comfortable and wished to sit up. His urine was examined with a negative result. Aconite was administered every hour, and by 10 P.M. his temperature was 105°, the pulse was 120, strong and regular, and the respiration was 26. His chest was carefully examined, but nothing unusual was elicited. Eight grains of antipyrin were administered and he had some hot baths, but the temperature steadily rose, till at 5 A.M. it was 107°. Antipyrin (ten grains) was again given and was repeated in an hour. Now for the first time the patient said he felt ill, and hyperæsthesia was present. He had neither pain nor any affection of the joints to indicate rheumatism and there had been no rigors or spasms. The temperature continued to rise and at 7 A.M. it was 115°. The thermometer was checked by two others which registered the same. The patient now became unconscious and died half an hour later from asphyxia. Hyperpyrexia sometimes follows infectious diseases, especially scarlet fever, as the result of nervous exhaustion, when the temperature has been maintained at a high level for a considerable time; but after a case which was so short and so mild as the present one it must be rare and some other explanation must be looked for to account for the result.

I am, Sirs, yours truly,

J. CLAY BECKITT, M.R.C.S. Eng., L.R.C.P. Lond.

Queen-street, Wigan, Aug. 21st, 1893.

DEATH UNDER CHLOROFORM.

To the Editors of THE LANCET.

SIRS,—A strong, healthy girl aged twenty-one was admitted into the Royal Infirmary, Newcastle-on-Tyne, on July 25th, suffering from a small bony growth of the septum nasi. It interfered with her breathing, so she was anxious to have it removed. On Aug. 9th chloroform was administered by one of the house surgeons. It was given on a single piece of lint from a drop bottle. On auscultation the heart sounds were found to be normal. She did not take it well, repeatedly holding her breath. Once or twice during the operation she partly came out of the chloroform owing to the difficulty of administration, the operator being in the chloroformist's way. She vomited once. The operation lasted twenty minutes, at the end of which her breathing became stertorous and her face cyanosed. Her radial artery was felt, but there was no pulsation. The mouth was opened and the tongue pulled out with forceps. Artificial respiration was resorted to, ether was injected, the sphincter ani was dilated, the legs were raised, the interrupted current was applied, the throat was swabbed out with brandy, amyl nitrite was held to the mouth, tracheotomy was performed as the air did not seem to be entering the chest well, oxygen was administered by the tube and, lastly, the heart was punctured by a needle, to which the battery was applied. These remedies were continued for over an hour without any response from the patient. The pupils did not begin to dilate until half an hour after the operation was finished. A little over half an ounce of chloroform was given. A post-mortem examination was not allowed.

I am, Sirs, yours faithfully,

Aug. 21st, 1893. JOHN BRAITHWAITE, House Surgeon.

"CHLOROBROM IN SEA-SICKNESS."

To the Editors of THE LANCET.

SIRS,—Does it not come to be nearly as crude to vaunt chlorobrom for sea-sickness as to urge the beggar to wear boots to prevent sore feet? Of course chlorobrom is good for sea-sickness; so are bromide of potassium, chloral, bismuth and opium in their way. My experience of sea-sickness is that nothing in particular can be a specific; rarely should two cases be treated alike. I have treated a good many cases and I know of no other affection that requires a finer adjustment of drugs. Sea-sickness is the very last disease regarding which one can afford to be empirical in treatment. Inasmuch as sea-sickness is in most instances chiefly cerebral, chlorobrom, chloral or potassium bromide generally do some good. Cases that are cerebral and stomachic will be benefited by these drugs also, but better still by a combination to meet the conditions of both regions. To be severely empirical in theraupeutics is to run very near quackery. "What is one man's medicine is another man's poison" is only another way of expressing the fact that no two cases of any disease are alike and idiosyncrasy stands ever ready to adulterate conditions fashioning similitude. I shall never forget the words of one great master of my student's days, "Learn to make your own prescriptions and never write two alike."

I am, Sirs, yours truly,

HAYDN BROWN,

Surgeon, Hôpital de St. Pierre Port, Guernsey.

Hauteville, Guernsey, Aug. 20th, 1893.

THE PONTYPRIDD RAILWAY ACCIDENT.

To the Editors of THE LANCET.

SIRS,—I have at present under my care a gentleman who was unfortunately one of those who were injured in the recent Taff Vale railway accident. He was removed with several others to the Cardiff Infirmary, and I must say that the account he gives of his sojourn there has caused me no small amount of surprise. He was admitted between 5 and 6 P.M. on Saturday, Aug. 12th, and he remained in the institution until about 2 o'clock on the following day. During the whole of this time he assures me that, with the exception of a very small quantity of milk, which was given to him from a bottle, and some water, he was not supplied with anything in the shape of food or drink, neither did he have any medicine or stimulant, although he was suffering much from shock and loss of blood. On Sunday morning the ordinary patients in the ward had substantial breakfasts brought to them, but for some unaccountable reason the requirements of the "accident cases" were completely ignored. To use the gentleman's own expression, he "felt he would have given anything for a cup of tea." A fellow sufferer in the next bed to his complained bitterly of hunger, he having had nothing to eat since the previous morning. My patient left the infirmary at his own request and soon had his creature comforts attended to by friends and sympathisers. Now, Sirs, surely this was a great oversight, and after making all due allowance for an overworked staff and the hurry and bustle consequent upon the simultaneous arrival of so many urgent cases I still think that some explanation of this rather unusual treatment is due. It is only fair to the gentleman in question to say that he did not tell me the foregoing story of his troubles by way of complaint. On the contrary, he is rather disposed to excuse the inattention he received on the ground that "the nurses were all so busy." In fact, he related his experiences "more in sorrow than in anger."

I am, Sirs, yours truly,

Aug 20th, 1893. H. C. D., L.R.C.S., L.R.C.P. EDIN.

"MEDICAL AID ASSOCIATIONS."

To the Editors of THE LANCET.

SIRS,—A letter under the above heading in your last week's issue signed "The Surgeon," and describing his experience, has so strong a resemblance to the experience of the managers of a friendly societies medical association in the county town of ——, as, I think, to merit insertion in your journal. From "The Surgeon's" letter it would appear that he accepted the post for what he calls—of course, in derision—"the munificent sum of £150" a year. He also says he was allowed £15 for cab hire, and there does not from "The Surgeon's" letter appear to have been any other payment or equivalent. Surely any medical man must have been in dire straits to have accepted such an appointment. In our case we gave £150 salary, residence rent free and taxes paid, and the responsibility of repairs, as good as £50 altogether; all the confinement fees; paid cab fare bill (£15 16*s.*) for the whole of the year 1892; and in addition paid £9 for medical attendance during the medical officer's holiday. At the end of the year we were indebted to the treasurer £4 1*s.* 8*d.*

Notwithstanding this, at the beginning of this year we raised the surgeon's salary to £200 (he to pay for cab fare and find a representative during his holiday), the confinement fees to be paid to him as usual, and his residence rent free and rates and taxes paid. At the end of six months there was a balance against us of about £5. Then the surgeon sent us an ultimatum, a copy of which I enclose. As we were paying the medical officer that which was equal to over £260 per annum, we deferred the consideration of his demands for six months. Then the surgeon sent in his resignation, which we accepted with regret. I enclose balance-sheet and surgeon's ultimatum, and remain, Sirs, yours truly,

THE CHAIRMAN.

Subjoined is a copy of the document sent by Dr. —— and addressed to the President of the Association:—

—— Friendly Societies' Medical Association.

Dear Sir,—The following important communication has been received from Dr. —— and it has been thought advisable to send a copy to each member of the committee.—Yours truly,

——, July 10th, 1893. ——, President.

Outline of Conditions under which Dr. —— is willing to continue to fill the post of Surgeon to the —— F. S. M. Association.

1. Amount to be paid annually to the doctor, as at present, £200
2. The doctor to provide horse and conveyance at his own expense.
3. The doctor to be at the charge of keep of horse, driver's pay and related taxes.
4. The committee to obtain, at their expense, a dispenser for two hours morning and one and a half hours evening.
5. The doctor to pay to the committee, within one week, the sum of £50 towards defraying expenses of dispenser, and any alterations in dispensary. This sum to be or remain the property of the committee, but shall be repaid to the doctor if the committee relinquish his services without his assent within a certain time, say eighteen months, of the date hereof.
6. The doctor to treat any patients who may apply to him, *not being members of the Association, at such fees as may be agreed upon*; these fees to be paid over to the committee.
7. These fees shall be repaid every three months to the doctor, so long as they amount to less than £50 a year.
8. In the event of such fees exceeding £50 a year, half such excess shall be retained by the committee; the other half shall be paid to the doctor.

Or Alternatively.

1. The committee to provide a dispenser as before.
2. The doctor to provide horse and conveyance.
3. The committee to pay the sum of £230, rising £10 annually to £250, in order to defray the cost of keep of horse and driver's pay, &c.

August, 1893.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Health of Dublin for July.

As compared with June there was last month a decided decrease in the mortality due to measles and scarlet fever and a still larger decrease in the number of fatal cases of whooping-cough. In each month 11 deaths from typhoid fever were recorded. The death-rate was 6·57 per 1000 above the mean rate for July in the previous ten years, whilst the zymotic death-rate was 3·9 above the average. There were 123 fatal cases of diarrhœa as compared with 34 cases in June, a result probably due to the high temperature which prevailed.

The Water-supply of Dublin.

The water supplied by the river Vartry is remarkably pure, and it may be interesting to describe the method of filtration which it undergoes before it reaches the citizens of Dublin and of some adjoining townships. It appears that the water passes from the Roundwood Lake into immense mains, and thence into a basin, whence it is distributed into channels which surround the filter-beds. There are nine of these filter-beds, constructed as follows:—First, there is a layer of about four feet of fine sand, then a layer of three feet of gravel, and lastly, a layer of four feet of coarse stones. The water is admitted on the surface of these beds to the depth of five or six feet. It percolates through the various strata and finds its way into a well, out of which it rises by the force of gravitation and flows into two larger reservoirs. The difference between the condition of the water before it passes through the filter-beds and afterwards is very remarkable. In the one case it looks muddy, in the other as clear as crystal. From these two reservoirs it passes into a tunnel some three-quarters of a mile in length to Callow Hill, where it is exposed to the air and measured, and then flows into the mains that convey it to the Stillorgan reservoirs, where it is again screened—that is, it filters through fine wire screens which intercept all forms of vegetable or other matter that may have invaded it in transit, after which it is conducted into the city.

Pharmaceutical Prosecution.

The person who advertises so extensively her ability to cure various affections connected with the face, and who is as well known in London as in Dublin, was last week prosecuted at the suit of the Pharmaceutical Society of Ireland for having kept open a shop for the retailing and dispensing of poisons, she not being registered as a parmaceutical chemist. An inspector of the society gave evidence that he purchased a bottle of "skin tonic" on June 8th at the defendant's premises. It was sold as a harmless compound and as not containing arsenic, lead, bismuth, sulphur, lime or anything injurious to the skin. The contents of the bottle were sent to Mr. Tichborne for analysis, who found it to contain about eight grains of corrosive sublimate. The value of the ingredients in the bottle was about one halfpenny and the selling price was put at half a guinea. The magistrate fined the defendant £5 and 6 guineas costs. It is to be hoped that this conviction will be a warning to Mrs. Ruppert's customers and show them the danger of meddling with such dangerous drugs for the future.

Precautions against Cholera.

The Local Government Board in a communication to their medical inspectors remark that should cholera obtain a footing in England, Wales or Scotland, the cross-channel traffic is likely to introduce cases of incipient cholera which may not develop characteristic symptoms until the sufferers reach their destination at inland places. It is, therefore, important that suitable arrangements for the isolation and treatment of cholera cases in Irish inland towns should be completed before the disease reaches our shores. As to the extent of such arrangements, the safest guide will be the character of the local water-supply. If this depends on wells and rivers, cholera, once introduced, may be expected to prevail with severity. Towns deriving their supply from reservoirs fed by rainfall collected outside the inhabited area and unpolluted by manured lands at the gathering ground may be expected to be visited but lightly. It should not be forgotten, however, that public institutions which are overcrowded often suffer severely. The inspectors should see that a clear understanding exists between the urban and the rural sanitary authorities as to which authority may be entrusted with powers under the third section of the Epidemic and Other Diseases Prevention Act, 1883, and to keep in view the regulations referred to—viz., the speedy interment of the dead, house-to-house visitation, provision of medical aid and hospital accommodation, and the promotion of cleansing, ventilation and disinfection. With regard to cities, large towns and other considerable centres of population, the sanitary authority should be made to understand that it is their duty through their medical superintendent officer of health, or other responsible sanitary officer, to ascertain what nursing assistance may be made available in the hour of need. The following points also require attention:—(1) To see that arrangements are provisionally made for day and night medical duty in hospitals and at the principal dispensary stations; (2) to suggest—if the local circumstances appear to render it desirable—that calls for medical aid may be delivered at police stations as well as at the medical officers' residences and at the dispensaries; (3) to warn sanitary authorities that their ambulances should be in working order, duly equipped, and that arrangements should be made for housing them day and night. In large centres of population it may be desirable to organise a stretcher service for the transport to hospital of persons suddenly taken ill in the streets, and the executive sanitary officers might be empowered to hire unoccupied houses as temporary hospitals and to make all necessary arrangements for obtaining bedsteads, bedding and appliances, together with medical attendance and the services of nurses, if occasion should arise. Supplies of astringent remedies, stimulants and disinfectants should be provided or arranged to be quickly supplied for hospital and dispensary stations. The executive sanitary officer should obtain the names and addresses of duly qualified medical practitioners who would be willing to render aid in the event of additional professional assistance being required on account of the severity and extent of any local outbreak of cholera.

Queenstown Water-supply.

A large number of ratepayers have memorialised the Local Government Board respecting the scarcity and impure condi-

tion of the water-supply, and have requested the Board to hold an inquiry into the matter. It is alleged that the water is thick with sediment, that it is dirty in appearance and that sometimes for two or three days no water is supplied to the residents. It would seem that the water is not subjected to filtration. The Commissioners have appointed a special meeting for this week to investigate the condition of the water and provide for its analysis. At the present time a somewhat severe form of diarrhœa prevails in the district.

Aug. 22nd.

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

Return of Mecca Pilgrims in 1891.

IT will be interesting to recall the experiences of the last time that cholera broke out in the holy places. However unnecessary quarantine may be in civilised countries, most people agree that Egypt is somewhat protected by the disinfection of clothing and the air-bath of the desert to which unclean pilgrims are subjected. 11,950 pilgrims passed through the camp of El Tor between July 12th and Sept. 30th, 1891; there were only 86 deaths amongst the men and none of these were from cholera, though six were erroneously attributed to it. The returning pilgrims were kept twenty days before entrance into Egyptian territory. There has been no cholera in Egypt since the epidemic of 1883.

The Sanitary Department.

The Egyptian Government is unfortunately much too apt to consider quarantine not only as the first but also as the only line of defence against cholera, and various finance officials have openly stated that they prefer to run the risk of an occasional epidemic to yielding to the entreaties of sanitarians who want an annual expenditure for new sanitary work to render the country less likely to serve as a cholera-trap. It seems highly absurd for finance officials to be accumulating large reserve funds whilst the sanitary and other departments are starving for want of necessaries. However, in spite of all red-tapeism, certain useful projects are now being commenced. The Egyptian Government has definitely decided not to grant £80,000 to build a new general hospital, but to advance £22,000 during four years for necessary repairs at the Kasr-el-Aini Hospital. This sum includes new ceilings and floors for the whole building and the restoring of several wards which must be pulled down and rebuilt. The Government has also been generously allowed by the representatives of the Powers to borrow some of its own money to establish a water-supply at Tantah for £23,000. A sanitary law has been drafted by the various authorities and has been submitted to the Powers for approval. This is a most necessary reform before any drainage scheme, including the connexion of all houses with main drains, can be carried out. Negotiations must also take place between the Government and the water company, which has a monopoly for the next two generations in Cairo. It is obviously to the interest of this company to grant water at more favourable terms than at present, for now they only supply water to 5000 houses in Cairo, whereas the drainage scheme would enable them to supply in the future no less than 50,000 houses. One of the points which should be insisted on is to remove the intake of the water-supply above the city of Cairo from its present place. This advice is by no means new, but has so far fallen upon deaf ears.

Enormous Vesical Calculus.

The largest calculus on record has lately been successfully removed from a living patient by Mr. H. Milton at Kasr-el-Aini Hospital. Abdominal section was performed, the patient being an Egyptian aged fifty, and the calculus has been presented to the museum of the Royal College of Surgeons of England. It weighs thirty-five ounces, its greatest length is five inches and three-quarters, and its greatest transverse circumference is eleven inches and a half. The patient recovered completely and used to walk about the garden of the hospital, but he unfortunately died of kidney disease three months and a half after the operation.

Cairo, August, 1893.

DEATH OF A CENTENARIAN.—On Aug. 19th Mr. Thomas Ironsides died at Ravensworth aged 102 years. The deceased was born on April 12th, 1791. For fourteen years he served as a soldier and had a vivid recollection of the keelmen's great strike on the Tyne, when he was one of the yeomanry despatched to Shields to assist in preserving peace.

Obituary.

JEAN MARTIN CHARCOT.

BY the death of this eminent French physician, which we briefly announced last week, medical science, but especially the department of neurology, has sustained one of the heaviest losses that could have fallen upon it. For nearly thirty years the doctrines of the Salpêtrière, as expounded by Charcot, have dominated French neurology, and if their influence in some respects on Teutonic and English physicians has not been so overwhelming as amongst the master's own compatriots this is to be ascribed not to any slowness in recognising the brilliancy and ability which were inherent in the man, not to any want of perception of the wonderful didactic skill which characterised the teacher, but rather to an essential difference in the character of the phenomena which were met with in the different countries.

Jean Martin Charcot was born in the year 1825, so that at the time of his death he was in his sixty-eighth year. In 1853 he took his degree and in 1860 he was appointed Professor in the University of Paris. Two years later he was appointed to the Salpêtrière and his connexion with this institution lasted up to the time of his death. During his long tenure of office he was the recipient of nearly every honour open to scientific men in France and he was decorated with the Legion of Honour. He also built up a reputation of which the hackneyed term "world-wide" is truly descriptive. In order properly to appreciate the ability which he brought to bear upon his work and the enthusiasm which he could inspire it should be remembered that when he began his now well-known "Leçons" at the Salpêtrière the institution was little less than an ill-assorted collection of 5000 females, comprising the aged, the imbecile, the idiotic, the epileptic and the paralysed, in which scarcely an attempt had been made to extract from the wealth of material anything more than a narrow individual experience. In a few years it had been transformed into the very Mecca of neurologists, and this it has remained up to the present time. It is difficult for anyone coming fresh to the study of neurology as it exists in these days to realise the advances which have taken place in even the last twenty years. New diseases have been described and discriminated, both clinically and pathologically, our ideas as to the function and structure of the brain have been nothing less than revolutionised, and amidst the stress and activity which have accompanied these changes he whose loss we now deplore has been one of the foremost and one of the most conspicuous and picturesque figures.

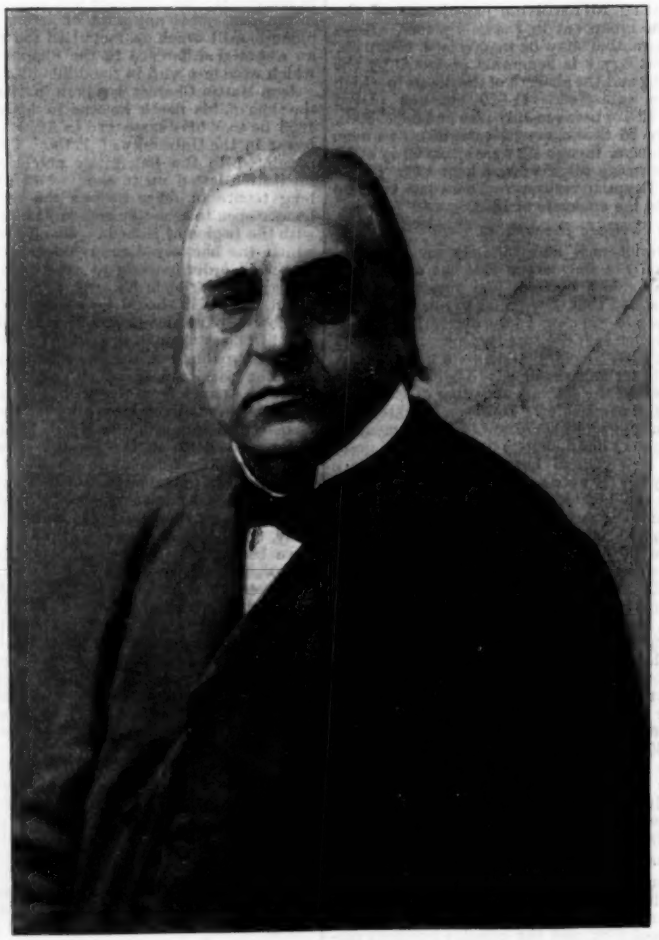
It is rather more than twenty years since the first part appeared of "Leçons sur les Maladies du Système Nerveux." Modest and unpretending, with a grey paper cover and no great thickness of letterpress, the publication was somewhat long in attracting general attention amongst the profession in this country; but to those who had had the good fortune to open the *brochure* what a wealth of interest was laid bare. Custom has long made us so familiar with M. Charcot's literary style that it is difficult to describe the charm of a first introduction to his writing. Putting aside for an instant the scientific value of the material, there was something in the writer's graphic power of imparting information which came with extraordinary force even upon those who had lingered with delight over the graceful pages of Watson or Trousseau. In Charcot's case it was not merely that we descried an astonishing facility of picturing by the pen, but above and beyond this was the evidence of the influence of a fresh and powerful mind pervading every paragraph. Lesions of the nervous system, formerly huddled together and massed under some name which, pretending to describe, had only succeeded in obscuring, began to emerge with a sharp outline and clearly differentiated form. It is sometimes charged against our French *confrères* that their strong dramatic sense which aids them in producing descriptive pictures, unequalled perhaps in vividness, is apt to tempt them at times to sacrifice rigid accuracy to the charm of a sparkling epigram; but it must be allowed that the Leçons of Charcot rise superior to such a charge. In certain details, doubtless, the passage of time may show here and there the need of modifications; but, taken altogether, it is surprising how splendidly this work sustains the criticism of a generation of such ardent workers in neurology as the world has never previously beheld.

The written works of Charcot naturally fall into two great

divisions: those dealing with nervous diseases generally and those concerned with the more recondite and abstruse phenomena of hysteria and hypnotism. Probably his most notable works are his Lectures on Nervous Diseases and his volume on cerebral localisation, both of which are accessible to English readers in the Sydenham Society's translations. In these are chronicled the great advances in our knowledge of nervous symptoms and nervous pathology with which Charcot's name will always be associated. The discrimination of disseminated sclerosis from the other diseases with tremor we owe to his ability and insight; the description of amyotrophic lateral sclerosis we also owe to him; and more recently in one of his famous Leçons the hitherto vague and formless "Symptomen-Complex" syringomyelia was impressed with distinctive features which so far have scarcely, if at all, altered. But perhaps one of the most interesting and at the same time important contributions was a paper published in the *Archives de Physiologie* in 1868 to which we referred in these columns at the time. Its title was "Sur quelques Arthropathies qui paraissent dépendre d'une Lésion du Cerveau ou de la Moëlle Épinière," the condition described being that now so well known as "Charcot's joint."

We have alluded to the other part of Charcot's neurological work, that in which he deals with the phenomena of hysteria and the perhaps cognate condition of hypnotism. Hysteria, as manifested at the Salpêtrière, is an almost peculiarly French malady. It is not easy to estimate how far the views there enunciated are possible of acceptation in other countries where the condition displays itself in entirely different guises; but no one can fail to appreciate the rare skill and ingenuity which were devoted to the elucidation of this most difficult subject. With regard to hypnotism, the Salpêtrière teachings and demonstrations have been so recently the subject of investigation and discussion that it is scarcely necessary to do more than refer to them.

The above remarks indicate but a few of the directions in which Charcot has explored and enriched neurological science. Of his excursions into other fields of medical interest various papers bear witness. Gout was a disease which interested him deeply and his contributions to the literature of that protean malady are extremely suggestive. Pulmonary diseases also engaged his attention and his lectures on phthisis delivered just on the eve of what may be called the bacillus era, and published at the time in our columns, are interesting because in them the view is advocated that all caseation is essentially a tuberculous process, whilst pneumonic phenomena are relegated to quite a secondary place.



The accompanying portrait of the late Professor Charcot is a reproduction of a photograph by Mons. Eugène Pirou, Boulevard St. Germain, Paris, to whose courtesy we are indebted for permission to publish it. The resemblance of Charcot in face and figure to an abbé has often been remarked. It was very striking—as striking perhaps as that of the late Sir William Gull to the First Napoleon. Consciously or unconsciously—who shall say?—each of these remarkable men was somewhat inclined to pose

for the character the likeness to which nature had so strongly impressed upon him. Charcot in private conversation had none of the impatient vivacity so frequently associated with the French manner. He was anything rather than loquacious. An attentive, respectful and sympathetic listener, he ever avoided any dogmatic expressions of opinion, even when dealing with subjects upon which his thought and experience had given him more than ordinary qualification for pronouncing judgment. He would listen with interest to a suggestion, conflicting perhaps with some published opinion of his own, and then, lifting his hands and shoulders with a little expressive gesture, would quietly say, "It may be so." He was fair and just in his references to the work of others, and, as it seemed to us, peculiarly appreciative of his English *confrères*. His knowledge of our language was excellent, and, paradoxical as it may seem, along with and not obscuring the likeness to one who might well have been the keeper of the conscience of a French *marquise*, there was a very strong resemblance to the type of an English gentleman.

Even had he not published a word, Charcot's individuality was such as could not fail to impress his contemporaries and his pupils. One who teaches orally twice a week and who conveys his instruction with the peculiar clearness which characterised his lectures could scarcely fail to imbue many with his enthusiasm and impress them with his views. French neurology at the present time is a vigorous plant. It has sprung from the genius of Charcot and its most vigorous branches are his pupils. His influence under any circumstances was bound to be great, aided as it was by the personal charm and fascination which surrounded him with a devoted following; it was almost incalculable in its strength and endurance, and it will be long before the torch which he has given to his pupils direct from his own hand ceases to illumine the dark recesses of disease.

ARTHUR ELLIS DURHAM, M.B., B.C., M.A. CANTAB.

WE have already briefly announced the death of Dr. Arthur Ellis Durham, which occurred at the London Fever Hospital on Sunday, Aug. 6th, from a virulent attack of pharyngeal diphtheria contracted whilst carrying on his duties as assistant resident medical officer. He was the eldest son of Mr. Arthur Durham, senior surgeon to Guy's Hospital. He received his early education at University College School, from which he matriculated with honours at the London University. Passing on to University College, he obtained the gold medal in zoology and subsequently went to Cambridge, where he was elected to a scholarship at Christ's College. There he devoted himself to natural science, graduating with first-class honours in physiology and zoology in Part II. and second-class honours in Part I. of the Natural Sciences Tripos. His medical education was completed at Guy's Hospital, where, besides the ordinary appointments, he held the post of house physician and won in 1890 the treasurer's gold medal in medicine. He then proceeded to Paris and studied under M. Roux, and on his return home became clinical assistant at Bethlem Hospital. Finally he was appointed assistant resident medical officer to the London Fever Hospital, and it was in the performance of his duties there that he met his sad and untimely end. On Wednesday, Aug. 2nd, he first suffered from sore-throat; on Friday, the 4th, the disease was recognised as diphtheria, and on Sunday, the 6th, he died. He had a brightness and originality of thought seldom met with, and his early death at the age of twenty-eight will make his loss a subject of universal regret. He was beloved by everyone and his death will be mourned by all who knew him.

REFUSAL TO CALL IN MEDICAL AID.—An inquest was held on Aug. 23rd by Mr. C. C. Lewis, Coroner for South Essex, at Baddow, near Chelmsford, on the body of a child aged seven months, the son of parents belonging to the sect known as the Peculiar People. Evidence was given as to the kindness of the parents and the sober living of the Peculiar People in general. The father of the child stated that the reason he did not call in medical aid was not from any obstinate feeling, but from a trust in Christ and for conscience sake. A verdict of death from natural causes was returned.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen passed the First Examination of the Board, at the quarterly meeting of the examiners, in the subjects indicated:—

Passed in Chemistry and Physics (under the five years' regulations):—

Addison, Joseph Bartlett, St. Mary's Hospital.
Aldrich, Frank Gladstone, Charing-cross Hospital.
Alford, Herbert Thomas Marmaduke, St. Thomas's Hospital.
Aubrey, Sydney Ernest, Charing-cross Hospital.
Bailey, Bernard Edward Granville, St. Bartholomew's Hospital.
Bannerman, Walter Biggar, London Hospital.
Barton, Francis, University College, Liverpool.
Barton, Eustace Robert, University College Hospital.
Batchelor, Ferdinand Stanley, Guy's Hospital.
Batteson, Carol Luther, London Hospital.
Bencastle, Herbert Melbourne, Guy's Hospital.
Blythe, Thomas Thompson, St. Thomas's Hospital.
Brewer, Dunstan, St. Mary's Hospital.
Burd, Cyril Prichard, St. Bartholomew's Hospital.
Burns, Edward Payton, Mason College, Birmingham.
Butler, Frederick Thomas, Owens College, Manchester.
Byrne, Thomas Wafer, University College, Liverpool.
Cade, Harry Mills, Westminster Hospital.
Catterall, Cuthbert George, Yorkshire College, Leeds, and Pharmaceutical Society.
Cautley, John Burton, St. Bartholomew's Hospital.
Chapman, Charles Leopold Granville, Guy's Hospital.
Chater, Harold John, St. Mary's Hospital.
Chesnaye, Francis William, St. George's Hospital.
Clegg, Alfred Joseph, Oxford University.
Crossley, Henry Joseph, Owens College, Manchester.
Cuddon-Fletcher, Angus Joseph McNab, St. Bartholomew's Hospital.
Cuming, Richard Ingram, Cambridge University.
Dalebrook, John, St. Bartholomew's Hospital.
Dallas, Alexander Brodie Mackintosh, King's College Hospital.
Davies, John, London Hospital.
Dawson, Thomas Denman, St. Bartholomew's Hospital.
Dixon, John, Guy's Hospital.
Douglas, Kenneth Harington, London Hospital.
Dowding, Ernest Frederick Charles, St. Thomas's Hospital.
Dowse, Thomas Alexander, Charing-cross Hospital.
Dugon, Thomas Henderson, London Hospital.
Edwards, Edgar Steele, University College, Bristol.
Evans, Edward, Guy's Hospital.
Falwasser, Arthur Thomas, Guy's Hospital.
Fell, Matthew Henry Gregson, St. Bartholomew's Hospital.
Fenn, Charles Edward, King's College Hospital.
Forward, Ernest Lionel, St. Thomas's Hospital.
Fowke, William Cecil, Guy's Hospital.
Francis, Charles Louis, St. Bartholomew's Hospital.
Furnivall, Charles Hilton, St. Mary's Hospital.
Gask, George Ernest, St. Bartholomew's Hospital.
Gervis, Charles Berkeley, University College Hospital.
Goddard, Eugène Gilbert, Guy's Hospital.
Halliday, Stratford Dobrée Tollemache, Middlesex Hospital.
Hardwick, George, Yorkshire College, Leeds.
Harris, Henry Arthur Clifton, St. Thomas's Hospital.
Harris, Herbert George, St. Bartholomew's Hospital.
Hasler, Frederic, London Hospital.
Hewer, Edward Septimus Earnshaw, St. Bartholomew's Hospital.
Hodgson, John Edward, Owens College, Manchester.
Horley, Richard Rothwell, Middlesex Hospital.
Hubbard, William St. Aubyn Fortescue, Charing-cross Hospital.
Hughes, Robert, Owens College, Manchester.
Hunter, Percy Douglas, Guy's Hospital.
Jago, Thomas Dinnen, St. Bartholomew's Hospital.
Jones, John Henry, Guy's Hospital.
Jones, Lewis, St. Bartholomew's Hospital.
Jones, Thomas Caldwell Lidler, St. Bartholomew's Hospital.
Kennard, Douglas Frederick, St. Mary's Hospital.
Kilvert, John Ellis, St. Thomas's Hospital.
Langley, John Inman, St. Thomas's Hospital.
Lankester, Cecil Pryor, St. Thomas's Hospital.
Lankester, Ralph Albert Rogers, University College Hospital.
Lemin, Oscar Ernest, London Hospital.
Lloyd, Richard Harte, St. Bartholomew's Hospital.
Long, John Reginald, Westminster Hospital.
Long, William Christopher, St. Bartholomew's Hospital.
Mackie, Frederic Percival, University College, Bristol.
Maher, Michael Robert, University College, Liverpool.
Marsh, Henry Rupert, Guy's Hospital.
Martin, John, University College Hospital.
Maugham, William Somerset, St. Thomas's Hospital.
Mayou, Stephen Marmaduke, King's College Hospital.
Miller, Arthur Alan, Guy's Hospital.
Moggridge, Charles Francis Blagney, St. Thomas's Hospital.
Morris, John Ignatius Worgan, St. Mary's Hospital.
Mossop, Charles Henry, Guy's Hospital.
O'Meara, Eugene John, Guy's Hospital.
O'Neill, Gordon, Charing-cross Hospital.
Osborne, Albert, St. Thomas's Hospital.
Page, Algernon Fountain, St. Bartholomew's Hospital.
Palser, John Edwin Ford, London Hospital.
Pearson, Thomas, Charing-cross Hospital.
Pennington, Septimus Benjamin Cullen Carter Adolphus, Guy's Hospital.
Phillips, Herbert James, St. Thomas's Hospital.
Pocock, Arthur Robert George, University College Hospital.

Raines, Robert, St. Bartholomew's Hospital.
Rees, Harry Melville, Owens College, Manchester.
Regnart, Horace Clare, Guy's Hospital.
Richards, Ramsey Martyn, St. Mary's Hospital.
Riley, Arthur, Westminster Hospital.
Roberts, William Edward Bee, Mason's College, Birmingham.
Robinson, Arthur Cecil, St. Thomas's Hospital.
Rose, Frank Herbert, University College, Bristol.
Schuller, Walter Joseph, London Hospital.
Shedden, Arnold Ward, Mason College, Birmingham.
Shorto, Stanley James Reeve, King's College Hospital.
Skevington, Joseph Oliver, St. Mary's Hospital.
Smith, Malcolm Arthur, Charing-cross Hospital.
Stevens, Alfred Edward, St. Thomas's Hospital.
Storrs, Reginald, St. Bartholomew's Hospital.
Storrs, William Townsend, St. Bartholomew's Hospital.
Taplin, Julian, Mason College, Birmingham.
Taylor, John Lionel, St. Thomas's Hospital.
Templeton, James, St. Mary's Hospital.
Thornely, Michael Harris, Guy's Hospital.
Turner, Charles Ernest, University College Hospital.
Tuxford, Arthur Wren, St. Mary's Hospital.
Waller, Herbert Ewan, St. Bartholomew's Hospital.
Walters, John Basil, Guy's Hospital.
Walton, Henry Beckles Gall, St. Mary's Hospital.
Watson, John Harry, University College, Liverpool.
Watt, James George, Guy's Hospital.
Way, Montagus Harold, Guy's Hospital.
Weekes, Charles Peterson, Guy's Hospital.
Weld, Alfred Edmond, Charing-cross Hospital.
Winkfield, Charles Franks, St. Bartholomew's Hospital.
Wood, Percival, St. Bartholomew's Hospital.
Wroughton, Arthur Oliver Bird, St. Bartholomew's Hospital.

Passed in Practical Pharmacy (under the five years regulations):—

Aldrich, Frank Gladstone, Charing-cross Hospital and private.
Alford, Robert Thos. Marmaduke, St. Thomas's Hospital.
Anning, George Paul, Yorkshire College, Leeds.
Aubrey, Sydney Ernest, Charing-cross Hospital.
Baker, Alfred Eaton, Middlesex Hospital.
Barnes, John Alfred, St. Thomas's Hospital.
Barton, Francis, University College, Liverpool.
Beadles, Hugh Stanley, St. Bartholomew's Hospital.
Bishop, Charles Dudley, Charing-cross Hospital.
Brewer, Dunstan, St. Mary's Hospital.
Brodribb, Arthur Hubert, St. Mary's Hospital.
Burns, Edward Payton, Mason College, Birmingham.
Cade, Harry Mills, Westminster Hospital.
Catterall, Cuthbert George, Yorkshire College, Leeds, and private.
Cautley, John Burton, St. Bartholomew's Hospital.
Chennells, Ernest Philip, University College Hospital.
Chesnaye, Francis William, St. George's Hospital.
Clapham, Stanley Cornell, Guy's Hospital.
Clegg, Alfred Joseph, Oxford University and private.
Curties, Arthur William Statter, Yorkshire College, Leeds.
Dickson, Avery Wynn, St. Bartholomew's Hospital.
Dyson, Malcolm Goodworth, St. Bartholomew's Hospital.
Edwards, Augustus Lea, St. Mary's Hospital.
Fanning, William Joseph, St. Thomas's Hospital.
Fawcett, Thomas Albert Edward, Yorkshire College, Leeds.
Forge, George Baynton, London Hospital.
Gervis, Charles Berkeley, University College Hospital.
Good, Arnold Saxty, St. George's Hospital.
Gough, Bernard Bradley, Guy's Hospital.
Hamerton, Albert Ernest, Yorkshire College, Leeds.
Hanbury, Saville Waldron, St. Thomas's Hospital.
Harston, George Montagu, Charing-cross Hospital.
Hutcheson, George, London Hospital.
Jones, George William Grey, St. Mary's Hospital.
Langdon, Harold Steele, Middlesex Hospital.
Langley, John Inman, St. Thomas's Hospital.
Leah, Thomas, St. Mary's Hospital and private.
Lloyd, Francis Seymour, St. Mary's Hospital.
Long, John Reginald, Westminster Hospital.
Martin-Leake, Arthur, private.
Martin, John, University College Hospital.
Meade, Norman Gerald, Yorkshire College, Leeds.
Milnthorp, Richard, Yorkshire College, Leeds.
Muller, David Vernon, Charing-cross Hospital.
Novis, Thomas Shepherd, London Hospital.
Oldfield, Josiah, St. Bartholomew's Hospital.
Osborne, Albert, St. Thomas's Hospital.
Osborne, Richard Sidney, St. Mary's Hospital.
Phillips, Herbert James, St. Thomas's Hospital.
Prichard, Arthur Heaword, University College Hospital.
Riviere Clive, St. Bartholomew's Hospital.
Roberts, William Edward Bee, Mason College, Birmingham.
Robinson, Arthur Cecil, St. Thomas's Hospital.
Sandras, Basil Stanley, private.
Scholberg, Harold Alfred, St. Bartholomew's Hospital.
Schuller, Walter Joseph, London Hospital.
Stevens, Alfred Edward, St. Thomas's Hospital.
Turner, Sydney Duke, St. Thomas's Hospital.
Westcott, Warren Guy, St. Mary's Hospital.
White, Harold Edward, Birmingham.
Whiteside, Henry Cadman, Middlesex Hospital.
Whiting, Robert Garden, St. Bartholomew's Hospital.
Winkfield, Charles Franks, St. Bartholomew's Hospital.

Passed in Chemistry and Chemical Physics (under the four years regulations):—

Abbott, Horatio White, Charing-cross Hospital.
Anderson, Charles Thompson, Guy's Hospital.
Baker, Gerald Rumsey, St. Bartholomew's Hospital.
Beale, Harry Hibberd, St. Mary's Hospital.
Bennett, William George, St. Thomas's Hospital.
Bennetts, Archibald James, St. Mary's Hospital.
Blakiston, Frederick Cairns, St. Thomas's Hospital.
Broch, John, St. Bartholomew's Hospital.
Burton, Edward Theodore, Mason College, Birmingham.
Caley, Thomas Aloysius, Yorkshire College, Leeds.
Clarke, William Edward Jelf, Guy's Hospital.
Clover, Martin, University College Hospital.
Clutterbuck, Henry James, Middlesex Hospital.
Crispin, Edward Smyth, King's College Hospital.
Crosby, Alfred Edward Binnington, Guy's Hospital.
Crosfield, Arthur Mellor, University College, Liverpool.
Davies, Thomas John, Middlesex Hospital.
Fryer, Edwin, Guy's Hospital.
Gartrell, John Herbert, Charing-cross Hospital.
Gibbon, Alfred Hugh, private.
Gibbs, William Yeend, Mason College, Birmingham.
Gibson, William Robert, St. Bartholomew's Hospital.
Greenwood, Arthur Rowland, Middlesex Hospital.
Hay, William Leslie, King's College Hospital.
Hayles, Alfred William, King's College Hospital.
Haynes, George Secretan, St. Bartholomew's Hospital.
Hope, Frederick Field Lawrence, Edinburgh and University College Hospital.
Jackson, Hadley Charles, University College Hospital.
Lewer, Horace Gordon, Edinburgh.
Lodge, Fred., Yorkshire College, Leeds.
Manning, Frank Ewart, University College Hospital.
Marett, Elie Philip, St. Thomas's Hospital.
Maver, Patrick Alpin James, King's College Hospital.
Mitchell, Arthur Henry MacNeill, St. Mary's Hospital.
Norrington, Henry Lawrence Weekes, University College, Bristol.
Parnell, Gervas, Charing-cross Hospital and private.
Pelle, William Hall, University College Hospital.
Price, Francis Edward, St. Bartholomew's Hospital.
Raper, Henry Edward, University College Hospital.
Richardson, George Quintin, Dublin
Roach, Sidney, St. Bartholomew's Hospital.
Robinson, John Hugh Ripon, London Hospital.
Rowlands, Robert Hugh, Guy's Hospital.
Sandison, James, London Hospital.
Scott, Ernest Harold, St. Thomas's Hospital.
Seville, George Edward, private.
Shanks, Henry Priest, University College Hospital.
Smith, Montague, Middlesex Hospital.
Stabb-Johnson, Edward William, Guy's Hospital.
Turner, Horatio John, St. Thomas's Hospital.
Waldmeier, Frederick John, Beyrout and London.
Walsh, William Percival, Oxford University.
Walton, Frederic Edward, St. Thomas's Hospital.
Wareham, Sidney James, Charing-cross Hospital.
Wilkinson, Arthur Wilfrid, St. Bartholomew's Hospital.
Woodstock, Charles Percy, Glasgow and private.
Worley, William Ernest Amsden, St. Bartholomew's Hospital.
Wright, George Henry Lionel, University College, Bristol.

Passed in Materia Medica and Pharmacy (under the four years regulations):—

Allen, Charles Percival, Middlesex Hospital.
Ambrose, Alfred Parker, Westminster Hospital.
Anderson, Charles Thompson, Guy's Hospital.
Andrews, Octavius Charles, Mason College, Birmingham.
Angior, Frederick Leigh, University College, Liverpool and private.
Armson, Charles James, Middlesex Hospital.
Arthur, Joseph Hugh, London Hospital.
Balderston, Robert, Guy's Hospital.
Barker, Percy Duckworth, University College Hospital.
Barnes, Joseph Sanders, St. Thomas's Hospital.
Baxter, James Fleming, Westminster Hospital.
Beacher, George Frederick, Firth College, Sheffield.
Beards, Ernest Jonathan, Mason College, Birmingham.
Bell, Francis Victor Owen, St. Bartholomew's Hospital and private.
Bennett, Henry Charles Plant, St. Bartholomew's Hospital.
Berry, Sidney Herbert, Charing-cross Hospital.
Black, Charles, Firth College, Sheffield.
Black, Joseph, Owens College, Manchester.
Bletchly, George Playne, Middlesex Hospital.
Bolton, Charles, University College Hospital.
Bracey, William Edelsten, Mason College, Birmingham.
Breton, Hewlett, St. George's Hospital and private.
Broadbent, Sydney Shakspere, Firth College, Sheffield.
Broch, John, St. Bartholomew's Hospital.
Brown, Robert Pollock, St. Bartholomew's Hospital.
Brunand, Alfred Sigismund, London Hospital.
Bryan, Herbert James, London Hospital.
Bull, Harry Ashworth, St. Thomas's Hospital.
Burton, Charles George, Guy's Hospital.
Burton-Brown, Gerald, Guy's Hospital.
Chatterton, Edgar, University College Hospital.
Cholmeley, Mountague Adye, St. Bartholomew's Hospital.
Churchill, Joseph Henry, St. Bartholomew's Hospital.
Clark, Henry Colbatch, Middlesex Hospital.
Clarke, George Fernandez Mitchell, Charing-cross Hospital.
Cleveland, Arthur John, Guy's Hospital.
Clifford, Harold, University College Hospital.
Clowes, Ernest Francis, Guy's Hospital.
Colls, Percy Cooper, King's College Hospital.
Coutts, John Morton Sims, University College Hospital.
Cowie, Robert Macnamara, King's College Hospital.
Crabtree, Angelo Mattéo, St. Bartholomew's Hospital.
Croker, Edward Ussher, St. Thomas's Hospital.
Daly, Nolan, Guy's Hospital.
Davies, David Lawford Francis, Middlesex Hospital.
Denner, Ferdinand Lionel, London Hospital.
De Saram, Herbert John, Ceylon and Middlesex Hospital.
De Vall, Alfred Ernest, Mason College, Birmingham.
Dodson, George Everard, St. Bartholomew's Hospital.
Dominy, George Herbert, St. Thomas's Hospital and private.

Dowding, William Frederick Charles, St. George's Hospital.
Dredge, James Allen, St. Bartholomew's Hospital and private.
East, William Norwood, Guy's Hospital.
Emanuel, Joseph George, Mason College, Birmingham.
Fenn, Joseph Hiorns, London Hospital.
Ferguson, James Henry, Dublin.
Fisher, Richard Denington, London Hospital.
Fitz-Hugh, Richard Truman, Guy's Hospital.
Fox, Edward Hamilton Bruce, St. Bartholomew's Hospital.
Francis, James, Westminster Hospital.
Fricke, Ernest Henry, Charing-cross Hospital.
Gabell, Douglas Phillimore, Charing-cross Hospital.
Gadsden, Arthur Horace, St. Mary's Hospital.
Gibson, William Robert, St. Bartholomew's Hospital and private.
Gilbert, Leonard, St. Thomas's Hospital.
Goldie, Frank Wilhelm, Guy's Hospital.
Greenwood, Arthur Rowland, Middlesex Hospital.
Greenwood, Frank Rodmayne, Birmingham.
Gwynn, Edmund Marshall, Middlesex Hospital.
Hall, John Spencer, St. Thomas's Hospital.
Hallam, Herbert, Sheffield.
Harris, Noel Hugh, St. Bartholomew's Hospital.
Hasslacher, Francis Joseph, King's College Hospital.
Hicks, Henry Thomas, Guy's Hospital and private.
Hitchfield, Alfred Reginald, Guy's Hospital.
Hitchins, Frederick Charles, Guy's Hospital.
Hocken, William Morland, Liverpool.
Hodgson, Cortis Rawsthorne, Guy's Hospital.
Hort, Edward Collett, Cambridge and Guy's Hospitals.
Horton, William Alexander, Guy's Hospital.
Howlett, Gerard Dalziel, St. Thomas's Hospital.
Hunt, Spencer, St. Bartholomew's Hospital and private.
Jackson, Herbert William, University College Hospital.
Jerman, Arthur Edward, Westminster Hospital.
Jones, John Llewelyn, University College Hospital.
Joyce, Robert Dwyer, Dublin.
Knight, Charles Voughton, St. Bartholomew's Hospital.
Liversidge, William, University College Hospital.
Lowe, Nynian Yeo, Guy's Hospital.
McKie, George McKenzie, King's College Hospital and private.
Maitland, Charles Robert, private.
Marles-Thomas, Theodore, University College Hospital.
Marriage, Herbert James, St. Thomas's Hospital.
Mason, Gerald Bovell, London Hospital.
Matthews, Henry Thomas, London Hospital.
Maxwell, James Laidlaw, St. Bartholomew's Hospital.
Mayston, Robert William, Guy's Hospital.
Moore, Ernest, private.
Mornement, Robert Harry, Middlesex Hospital.
Mottram, Guy Naamith, Guy's Hospital.
Mundy, Herbert, St. Bartholomew's Hospital and private.
Nelson, Frank, Owens College, Manchester.
Nicholson, Charles Rowley, Guy's Hospital.
Nicol, Alexander Campbell, Yorkshire College, Leeds.
Nixon, Arthur Percival, University College, Liverpool.
Nolan, Maurice Joseph, St. Thomas's Hospital.
Nowell, Walter Salmon, Middlesex Hospital.
Ormond, Arthur William, Guy's Hospital.
Oxley, William Henry Francis, Firth College, Sheffield.
Pattison, Albert John, London Hospital.
Peile, Harry Diamond, Guy's Hospital.
Penny, William Reginald, Westminster Hospital.
Plummer, William Edwin, Guy's Hospital.
Powell, Austin William, Guy's Hospital.
Powell, Josiah Cecil, St. Bartholomew's Hospital.
Power, John Hugh, London Hospital.
Pratt, Charles Claridge, St. George's Hospital and private.
Price, Francis Edward, St. Bartholomew's Hospital.
Pritchard, William Clowes, Guy's Hospital.
Pywell, Percy Dodd, St. Thomas's Hospital.
Reynolds, Leonard Grugeon, Guy's Hospital.
Richardson-Jones, Arthur Trevor, Oxford and King's College Hospital.
Roache, William Henry, St. Bartholomew's Hospital.
Roberts, Charles, Middlesex Hospital.
Rose, Horace, St. Mary's Hospital.
Sargent, Alfred George, St. Mary's Hospital.
Scatchard, James Percival, St. Thomas's Hospital.
Seville, George Edward, private.
Shelley, Percy Wilfred Graham, St. Bartholomew's Hospital and private.
Smith, George Melville, St. Thomas's Hospital.
Squire, Maurice Frederick, St. Mary's Hospital.
Stillwell, Reginald John, Westminster Hospital.
Stowe, William Reginald, St. Bartholomew's Hospital.
Sweetlove, John Wallace, Guy's Hospital.
Swift, John Francis, Sheffield.
Thomas, Robert Russell, St. Bartholomew's Hospital.
Towne, Hugh Rose Forster, Westminster Hospital.
Tyndale, Wentworth Francis, St. George's Hospital.
Walsh, William Percival, Oxford.
Wareham, Sidney James, Charing-cross Hospital.
Weston, Henry James, St. Bartholomew's Hospital.
Whincup, Frank, St. Bartholomew's Hospital.
Williams, Frederick Edgar, Guy's Hospital.
Williams, Ralph Paul, King's College Hospital.
Wills, Bertram Shera, St. Thomas's Hospital.
Wilson, Alexander Gordon, London.
Wood, William Bird Herapath, Mason College, Birmingham.
Woodbridge, Elliot Wilson, St. Bartholomew's Hospital and private.
Woolley, Thomas Fisher, Mason College, Birmingham.
Yates, Thomas Preston, Owens College, Manchester.

Passed in Elementary Anatomy and Elementary Physiology (under the four years regulations):—

Abbott, Horatio White, Charing-cross Hospital.
Ahrens, Henry Augustus, King's College Hospital.
Ambrose, Edward Quaid, London Hospital.
Amsden, Walter, St. Bartholomew's Hospital.
Bailey, Reginald Threlfall, University College, Liverpool.
Barnett, Henry Norman, Queen's College, Belfast.
Bayley, Percival, Mason College, Birmingham.
Bedford, Douglas James, Cambridge.
Blakiston, Frederick Cairns, St. Thomas's Hospital.
Bradbury, Charles Henry, Owens College, Manchester.
Brookhouse, Charles Scott, Guy's Hospital.
Brown, George Minter, Guy's Hospital.
Carter, Arthur Hunton, Guy's Hospital.
Clifford, Harold, University College Hospital.
Cridland, Arthur Bernard, University College, Bristol.
Daly, William, University College, Liverpool.
French, Louis Alex. Weatherhead, University College Hospital.
Fryer, Edwin, Guy's Hospital.
Gibbs, William Yeend, Mason College, Birmingham.
Gray, Egerton, Cork and London Hospital.
How, Frederick Field Lawrence, University College Hospital.
Izard, Herbert Crawford, St. George's Hospital.
Jones, Robert Orford, Guy's Hospital.
Kirk, John Lamplugh, Cambridge.
Knight, Fredk. Chas. Riesal Malins, Guy's Hospital.
Lambert, John Reginald, Yorkshire College, Glasgow.
Laurence, Bertram Eustace, St. Bartholomew's Hospital.
Legge, Charles Proctor, St. Mungo's College, Glasgow.
Markby, Herbert, Yorkshire College, Leeds.
Meacock, Henry Charles, St. Thomas's Hospital.
Mortimer, Arthur Ferris, St. Thomas's Hospital.
Naylor, Walter, Charing-cross Hospital.
Ormrod, Oliver Charles, Owens College, Manchester.
Parker, Lionel Edmund Longworth, St. George's Hospital.
Parnell, Gervas, Charing-cross Hospital and Mr. Cooke's.
Pedley, Joseph Kennerley, Guy's Hospital.
Peirce, James Arthur Lilwall, Mason College, Birmingham.
Pellow, Christopher Trehane, St. Thomas's Hospital.
Prichard, David Llewelyn Kurtz, University College Hospital.
Richardson, George Quintin, Dublin.
Richmond, Reginald Thomas, Cambridge and Mr. Cooke's.
Robinson, John Hugh Ripon, London Hospital.
Sandison, James, London Hospital.
Smith, Hugh Victor, Guy's Hospital.
Smith, Richard Coutts, University College, Liverpool.
Stock, William Stuart Vernon, University College, Bristol.
Thomas, Robert Russell, St. Bartholomew's Hospital.
Thornton, George Lestock, Cambridge.
Wellby, Stanley, Oxford University and St. Thomas's Hospital.

Passed in Elementary Anatomy only (under the four years regulations):—

Bradstock, Leslie, Mason College, Birmingham.
Farndon, Albert Ernest, St. Mary's Hospital.
Hoare, Reginald Cecil Morley, Mason College, Birmingham.
Macpherson, Ronald Gordon, Middlesex Hospital.

Passed in Elementary Physiology only (under the four years regulations):—

Adams, Arthur Reginald, Guy's Hospital.
Beale, Harry Hibbert, St. Mary's Hospital.
Burn, William Leopold, St. Bartholomew's Hospital.
Elvins, Ralph Sedgley, Mason College, Birmingham.
Lowell, John Joseph, St. Thomas's Hospital.
Norrington, Henry Lawrence Weekes, University College, Bristol.
Treusch, John Benjamin August, Guy's Hospital.
Whittingham, Arthur Herbert, Cambridge University and St. Mary's Hospital.

SOCIETY OF APOTHECARIES OF LONDON.—The following candidates have passed in the subjects indicated below:—

Surgery.—D. D. Brown, St. Bartholomew's Hospital; F. J. Carter, St. Bartholomew's Hospital; D. H. Fraser, St. Thomas's Hospital; G. P. L. Gregory, Birmingham; F. P. Job, University College; R. Keatinge, St. Thomas's and London Hospitals; G. R. Northwood, Birmingham; S. W. Rhodes, Leeds; J. R. M. Richmond, King's College; G. C. Taylor, Cambridge and St. Bartholomew's Hospital; H. J. Van Leent, Guy's Hospital.

Medicine, Forensic Medicine and Midwifery.—A. E. Bodington, Cambridge and Middlesex Hospital; A. J. Campbell, St. Thomas's Hospital; F. Chown, St. Mary's Hospital; A. W. V. Clarke, St. Thomas's Hospital; G. R. Northwood, Birmingham; S. J. Stuck, Middlesex Hospital; G. C. Taylor, Cambridge and St. Bartholomew's Hospital; E. H. J. Danaher, London Hospital.

Medicine and Forensic Medicine.—A. H. Bird, St. Mary's Hospital; H. E. E. M. Greene, Royal Free Hospital; G. C. B. Hawes, St. George's Hospital; S. W. Rhodes, Leeds; E. H. Worth, St. Thomas's Hospital.

Medicine.—R. L. Chapple, Leeds; R. J. Farman, Charing-cross Hospital.

Forensic Medicine and Midwifery.—F. S. Hogg, Charing-cross Hospital; H. J. Van Leent, Guy's Hospital.

Forensic Medicine.—M. T. Archdall, Charing-cross Hospital; G. M Hetherington, King's College; R. W. Nesfield, Manchester.

Midwifery.—A. W. Taylor, Edinburgh and London Hospital; J Wood, St. Thomas's Hospital.

The diploma of the Society, entitling the candidates to practise Medicine, Surgery and Midwifery, and enabling the holder to compete for medical appointments in the Army, Navy and Indian Service, and also for Poor-law appointments, has been granted to the following gentlemen:—

Messrs. Bodington, Carter, Chapple, Clarke, Gregory, Hetherington, Hogg, Job, Nesfield, Northwood, Rhodes, Stuck, A. W. Taylor, G. C. Taylor, Van Leent, Wood and Worth.

INGHAM INFIRMARY, SOUTH SHIELDS.—The annual meeting of this institution was held on Aug. 21st. The report showed the Infirmary to be in a very satisfactory condition.

LEGACIES FOR MEDICAL PURPOSES.—The Association of Medical Practitioners in the Department of the Seine has decided to accept a legacy left by a widow lady, Mdme. Boullard, of 40,000 fr., the interest of which is to be devoted to the assistance of widows and orphan daughters of medical men dying without means. The same lady has left 20,000 fr., the interest of which is to form a prize, to be awarded every second year for the best work and best results in treating mental diseases and in arresting their course. The prize is to be called the "Charles Boullard prize."

LITERARY INTELLIGENCE.—The excellent and full report of the proceedings of the meeting of the British Medical Association which appeared in the *Newcastle Daily Chronicle* has been reissued in book form. Many who were present may like to possess this memento of the gathering which they owe to the enterprise of the proprietors of that paper. It is, we believe, the first time on such an occasion that the local press has in this way aimed at producing a permanent record of the proceedings of a scientific association.

MEDICAL AID ASSOCIATIONS.—At a meeting of the medical profession of Kidderminster and district, held on July 17th last, the following resolution was unanimously adopted: "That in consequence of the abuses brought to light by the inquiry into medical aid associations by the General Medical Council we have decided that we cannot in any way countenance these bodies, and we therefore refuse to recognise their medical officers professionally in consultation or otherwise until such abuses are removed. (Signed) S. Stretton, E. H. Addenbrooke, David Corbet, J. Lionel Stretton, W. W. Gibson, W. Hodgson Moore, O. C. Penrhys Evans, F. T. Frampton, H. L. Miles, C. Clifford Batten, H. Owen, A. T. Broadlick, W. Moore, E. S. Robinson, T. Webster, T. Pennington, M. Johnstone, Dennis Fitch, E. S. Greensill."

LEEDS DISPENSARY.—The annual meeting of the Leeds Dispensary was held at that institution on Aug. 18th. The report stated that the total number of patients had again increased from 34,468 in 1892 to 35,275 in 1893. The number of new cases had risen from 25,118 to 26,923—an increase of 1700 upon the previous year and 1000 more than in any of the previous three years. There was an adverse balance in connexion with the dispensary of £213. In appealing for funds Mr. Jas. Walker, the chairman, said there was an aspect of the matter which greatly affected the general health of the city. When patients presented themselves suffering from infectious diseases they were not allowed to return home to communicate the infection to others, but were conveyed in the ambulance to the Fever Hospital. Under these considerations they might fairly appeal to the generous public for assistance. The report was adopted.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Opium Commission.

The Opium Commission has now, we believe, been definitely constituted and will include the following members: Lord Brassey (chairman), Mr. Caine, M.P., Mr. R. G. Mowbray, M.P., Mr. Arthur Pease, Sir William Roberts, Sir James Lyall, Mr. Fanshawe, the Rajah of Darbhungah, an Indian landowner, and a well-known Indian merchant. The secretary of the Commission is Mr. Prescott Hewett.

The Coroners' Inquests (Scotland) Bill.

A deputation of miners, accompanied by Sir William Wedderburn, Sir James Carmichael, Dr. Farquharson, and Messrs. Dalziel, D. Crawford, Keir Hardie and Alpheus Morton, waited upon the Lord Advocate on Aug. 22nd to urge the importance of passing the Bill this session.—The Lord Advocate, in his reply, said he thought that public opinion should be further ascertained; at any rate, as little contentious matter as possible should be in the Bill if it were to be passed this session. It was urged by the deputation that these inquests might suggest a means of avoiding fatal accidents in mines, and it was suggested that the money paid to mining-royalty owners could be appropriately applied to any extra expense that might be entailed. The Lord Advocate promised to lay the views of the deputation before his colleagues.

HOUSE OF COMMONS.

FRIDAY, AUG. 18TH.

The Dublin Main Drainage Scheme and the Pigeon-house Fort.

Mr. W. Field asked the War Secretary whether the soldiers stationed at the Pigeon-house Fort could not be accommodated elsewhere, since their location in the fort interfered with the progress of the main drainage scheme in Dublin.—Mr. Campbell-Bannerman said that the suggested arrangement would not only interfere with the housing of the soldiers but with the Ordnance Store establishment for all Ireland, the removal of which would necessitate the provision of accommodation in another place. The right hon. gentleman proceeded to state that the drainage scheme had been pronounced by the Army Sanitary Commission to be injurious to the health of the occupants of the fort in question and he was anxious that some arrangement might be come to by which the site of the fort could be acquired by the corporation on the condition that another site could be obtained by the War Department.

Summer Uniforms for the Police.

Mr. Asquith, in reply to a question put by Mr. E. H. Bayley, said that the question of providing the police with lighter clothing during the summer season had been frequently before the authorities, but the chief surgeon of the police had considered that, in view of the variability of the English climate and having regard to the whole of the conditions of the case, it would not be advisable to effect an alteration in the direction indicated.

Pleuro pneumonia.

Mr. W. Whitelaw asked whether there was any intention to place restrictions on the movement of cattle from Ireland into Great Britain, since it was alleged that pleuro-pneumonia had been introduced into Scotland by an Irish cow.—The President of the Board of Agriculture said there was no evidence that the animal in question had contracted the disease before leaving Ireland, since the morbid appearances were quite compatible with the view of the contraction of infection after her arrival in Scotland. It would be with the greatest reluctance that he would consent to the adoption of the step indicated in the question, and then only in the presence of the most serious danger. Moreover, if the policy suggested by the hon. member were adopted at the present time the movement would be from Scotland to England and *vice versâ* rather than from Ireland to Great Britain, which would have to be prohibited.

MONDAY, AUG. 21ST.

Army Medical Examinations.

Mr. Jacks asked the Secretary of State for War whether he had received a memorial from the Senate of the Glasgow University in respect of the action of the authorities of the War Department in restricting the selection of medical and surgical examiners for the competitive examinations for admissions to the Army Medical Service solely to the present examiners of the London Colleges of Physicians and Surgeons.—Mr. Campbell-Bannerman said that such a memorial had been received and an answer had been returned to the effect that there was no intention of conferring on any medical body a monopoly such as that referred to. It was, he said, quite open to the Secretary of State to replace the present examiners, as vacancies occurred, by gentlemen selected from examiners' bodies in Scotland and Ireland.

Quarantine.

Sir C. Dilke asked the President of the Local Government Board whether, in the opinion of his medical advisers, the system of quarantine was in any circumstances desirable.—Mr. H. Fowler replied that the question of the imposition of quarantine had been determined only in connexion with cholera, and in respect of that disease the medical experts had considered the restriction referred to to be very undesirable. The administration of the quarantine laws lay with the Privy Council, not with the Local Government, and quarantine would be enforced only in cases of yellow fever or plague, and then only for the purpose of preventing any hindrance to navigation which might arise.

Patent Medicines.

Mr. F. C. Frye asked whether the action of the Public Prosecutor was, as had been stated, limited in the first place to the sale of preparations having poisonous ingredients and, in the second place, to those preparations having an insufficient quantity to bring them under the provisions of the Sale of Poisons Act, and whether under these circumstances the Pharmaceutical Society was justified in continuing to demand penalties from tradesmen.—Sir J. Hibbert said that the directions given by the late Attorney-General to the department of the Solicitor to the Treasury had been and were still being carried out; but he was not prepared to give a legal opinion on the action to be taken by the Pharmaceutical Society in the exercise of its discretionary power.

TUESDAY, AUG. 22ND.

Prosecutions for Infringing the Vaccination Laws.

Major Rasch drew attention, by a question addressed to the Home Secretary, to the vaccination prosecutions now being carried on in Essex.—Mr. Asquith said he was acquainted with the facts connected with those cases. He found that 65 warrants of distress were issued in June and July; in 46 cases the penalties were paid; in 6 the goods were sold; in 9 there were no effects; and in 4 the warrants were still unexecuted. To remit the fines in cases of two prosecutions would be in effect to repeal the Act of Parliament. As he had before stated, he deprecated second prosecutions for the same offence; and if the Bill which he had introduced were passed into law they would become impossible.—Mr. Macgregor asked, if repeated breaches of the vaccination law justified a remission of penalties, would not the same rule apply to breaches of the land laws?—Mr. Asquith said that was a matter of opinion and not of fact.

The Bovine Tuberculosis Report.

In reply to Mr. Field, Mr. H. Fowler stated that from information he had received from the Royal Commission it appeared that two of the special inquiries that had been undertaken were completed, whilst the third would be concluded by the end of the month. As to the means to be adopted for granting compensation to owners whose property was confiscated, that was a question which must be deferred until the Commissioners had made their report.

WEDNESDAY, AUG. 23RD.

Foreign and Colonial Meat.

Mr. Yerburgh obtained leave to bring in a Bill to regulate the sale of foreign and colonial meat. The Bill was read a first time.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

ALLARDICE, WM. C., M.B., C.M. Glasg., has been appointed Senior House Surgeon to the Macclesfield General Infirmary, vice Macleod, resigned.

ANDERSON, T. C., M.B., Ch.M. Aberd., has been appointed Health Officer for Essendon, Victoria, Australia.

BENSON, H. P. D'A., M.B., M.S. Edin., has been appointed Medical Officer for the Kentchurch Sanitary District and the Workhouse of the Dore Union.

BETENSON, W. B., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Second Sanitary District of the Depwade Union.

BOSTOCK, J. C., M.R.C.S., has been reappointed Medical Officer for the Wymeswold Sanitary District of the Loughborough Union.

BOYD, J. W., M.B., C.M. Glasg., has been appointed Junior House Surgeon to the Macclesfield General Infirmary, vice Allardice, resigned.

COLEMAN, M. O., M.D. Aberd., M.R.C.S., has been reappointed Medical Officer and Public Vaccinator for the Surbiton Sanitary District of the Kingston Union.

DAY, F. W. LANGSTON, M.R.C.S., L.R.C.P. Lond., has been appointed Medical Officer of Health for the Hitchin Rural Sanitary District of the Hitchin Union.

DRABBLE, G. W., M.B., B.S. Camb., has been appointed Medical Officer for the Walton Sanitary District of the Chertsey Union.

EDWARDS, E. C., M.B., C.M. Edin., has been appointed Assistant House Surgeon to the East Suffolk Hospital, Ipswich.

ELLIOT, F. J., M.R.C.S., has been appointed a Public Vaccinator in South Australia.

FAWCETT, W. H., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Second Sanitay District and the Workhouse of the Wimborne and Cranbourne Union.

HARKNESS, EDWARD, L.R.C.P., L.M., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Health Officer for Rosedale Shire, Victoria, Australia.

JAMISON, ALEXANDER, M.A., M.B., B.Ch., B.A.O., has been appointed House Surgeon to the Bristol Hospital for Sick Children and Women.

JOHNSON, FRANCIS, L.R.C.P. Irel., M.R.C.S., has been reappointed Medical Officer and Public Vaccinator for the Hedgerley Sanitary District of the Eton Union.

LEACHMAN, A. W., M.D. St. And., M.R.C.S., has been appointed Medical Officer of Health for the Petersfield Urban Sanitary District of the Petersfield Union.

MACFARLINE, A. M., M.B. Melb., has been appointed a Public Vaccinator in South Australia.

MARSACK, A. E., L.R.C.P., L.R.C.S. Edin., has been appointed a Public Vaccinator for the district of Whangarei, New Zealand.

MILL, WILLIAM, M.B., Ch.M. Edin., has been appointed Assistant Medical Officer of the Wellington Lunatic Asylum, New Zealand.

NASH, A. W., M.B., Ch.M. Edin., has been appointed Government Vaccinator for the district of Robertson, New South Wales.

OLDACRES, C. E., L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer for the Workhouse of the Daventry Union.

PRICE W. E., M.B. Durh., M.R.C.S., has been appointed Medical Officer for the Workhouse of the Ross Union.

RAY, HENRY, M.D., Ch.M. Glasg., L.R.C.P., L.R.C.S. Edin., has been appointed a Public Vaccinator for South Carlton, Victoria, Australia.

ROBINSON, M. A., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer for the Seventh Sanitary District of the Depwade Union.

ROGERS, BERTRAM M. H., M.B., B.Ch., M.R.C.S., L.R.C.P., has been appointed Physician to the Bristol Hospital for Sick Children and Women.

SALTER, A. E., M.B., Ch.B. Melb., has been appointed a Surgeon on the Medical Staff of the Queensland Defence Force, Queensland.

SMYTH, T. E., M.D. Dub., Ch.B., has been appointed Honorary Surgeon-Lieutenant to the Mounted Infantry Regiment, New South Wales.

SNOWDEN, G. H., M.R.C.S., has been appointed Medical Officer for the Halford Sanitary District of the Shipton-on-Stour Union.

STEPHENS, J. W., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health for the Urban and Port Sanitary Authority, Cardigan.

THORPE, A. E., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Second Sanitary District of the Newport (Salop) Union.

TORRANCE, J., M.B., B.S. Univ. New Zealand, has been appointed Health Officer for the Port of Bluff, New Zealand.

TROTTER, W. O., L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer for the Brandon Sanitary District of the Thetford Union.

TWEEDIE, F. K., M.B., B.S. Irel., has been appointed Medical Officer of Health for the Hucknall-under-Huthwaite Urban Sanitary District of the Mansfield Union, vice Style, resigned.

WATKINS, FRANK A., L.R.C.P. Lond., M.R.C.S., has been appointed Health Officer for the districts of Smythesdale, Browns and Scarsdale, Victoria, Australia.

WEBSTER, GEO. A., M.B. Camb., M.R.C.S., has been appointed Health Officer for Caulfield Shire, Victoria, Australia.

WEBSTER, TREVOR, M.R.C.S., has been appointed Medical Officer for the Bewdley Sanitary District of the Kidderminster Union.

WINTLE, COLSTON, M.R.C.S., L.R.C.P., has been appointed Surgical Registrar and Out-patient Assistant to the Bristol Hospital for Sick Children and Women.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

CAMBERWELL HOUSE, 32, Peckham-road, S.E.—Junior Assistant Medical Officer, unmarried. Salary £100, with subsequent increase, board, lodging and washing.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria-park, E.—House Physician for six months, board and residence and allowance for washing provided.

DENBIGHSHIRE INFIRMARY, Denbigh.—House Surgeon. Salary £85 per annum, with board, residence and washing in the house. At the end of year's engagement, if satisfactory, a gratuity of £15 is given by the committee.

KENT COUNTY ASYLUM, Chartham, near Canterbury.—Junior Assistant Medical Officer, unmarried. Salary £125 per annum, with furnished apartments, board and attendance.

LONDON TEMPERANCE HOSPITAL, Hampstead-road, N.W.—House Surgeon for six months. Salary at the rate of 50 guineas per annum, with residence in the hospital, board and washing.

LONDON TEMPERANCE HOSPITAL, Hampstead-road, N.W.—Junior House Surgeon for six months. Residence in the Hospital, with board and washing provided, and an honorarium of 5 guineas on satisfactory completion of term of appointment.

NEW MUSEUMS, Cambridge.—The George Henry Lewes' Studentship.

SHEFFIELD SCHOOL OF MEDICINE.—Tutor, to take Charge of Dissecting-room and hold Classes in Anatomy and Physiology. Salary £125.

STAFFORD GENERAL INFIRMARY, Stafford.—Assistant House Surgeon. Board and Residence in the hospital provided.

ST. PETER'S HOSPITAL FOR STONE AND URINARY DISEASES &c., Henrietta-street, Covent-garden, W.C.—House Surgeon, for six months. Honorarium 25 guineas, board, lodging and washing.

UNIVERSITY OF DURHAM.—Professorship of Comparative Pathology in University of Durham College of Medicine, Newcastle-on-Tyne.

WESTON-SUPER-MARE HOSPITAL AND DISPENSARY.—Medical Officer to the Provident Dispensary. Salary £60 per annum, with board, lodging and washing.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL, Wolverhampton.—House Surgeon for one year, who will also be required to act as Surgical Registrar. Salary £100, with board, lodging and washing.

Births, Marriages and Deaths.

BIRTHS.

BLACKER.—At 15, West Eaton-place, S.W., on Aug. 22nd, the wife of A. Barry Blacker, M.D., B.S., M.R.C.S. &c., of a son.

DIXON.—On Aug. 11th, at 2, Wootton-gardens, Bournemouth, the wife of J. R. L. Dixon, M.B.C.S., L.R.C.P., of a daughter.

MACK.—At 28, St. Paul's-road, Canonbury, the wife of Cyril G. Mack, M.B. Lond., of a son.

MUSPRATT.—On Aug. 16th, at Brading, Madeira-road, Bournemouth, the wife of Charles D. Muspratt, M.D., F.R.C.S., of a son.

ROE.—On Aug. 22nd., at West-hill, Wandsworth, the wife of Dr. A. Dumville Roe, of a son.

WREFORD.—On Aug. 18th, at Grosvenor-villas, Jesmond, Newcastle-on-Tyne, the wife of John Wreford, M.R.C.S., L.R.C.P., of a son.

MARRIAGES.

DE JERSEY—MILLER.—On Aug. 22nd, at the Abbey, St. Albans, by the Rev. C. Stewart Miller, brother of the bride, assisted by the Rev. Norman S. de Jersey, brother of the bridegroom, and the Venerable Archdeacon Lawrance, Rector of the parish, Walter Brock de Jersey, M.B. Cantab., of 94, Finchley-road, N.W., son of the late Carey Brock de Jersey, Esq., of Grange Lodge, Guernsey, to Mary Stewart, youngest daughter of the late Major Dugald Stewart Miller, formerly of the Royal Fusiliers.

EDWARDS—CARRINGTON.—On Aug. 19th, at St. Saviour's Church, Southwark, by the Rev. George Horlock, Harford Norman Edwards, M.R.C.S.L., Kingsclere, Berks, to Flora Rose Wollacott, youngest daughter of the late Mr. F. G. Carrington, editor-proprietor of the *Gloucestershire Chronicle* and grand-daughter of the late N. T. Carrington, Poet of Devon.

HARRISON—VALINTINE.—On Aug. 22nd, at Shorne, near Gravesend, by the Rev. R. Espinasse, Rector of Birdham, Chichester, and the Rev. A. L. Coates, the Vicar, George A. Harrison, L.R.C.P., M.R.C.S., elder son of Dr. A. J. Harrison, of Clifton, Bristol, to Miss Mabel Valintine, second daughter of the late Captain Valintine, of Goodwood, Sussex.

DEATHS.

COLLINS.—On Aug. 29th, at Steanbridge House, Stroud, John Charles Collins, Surgeon-Major, Retired List, Bengal Medical Service, aged 71 years.

FEAR.—On Aug. 21st, at Brenchley, Kent, William Fear, Surgeon, aged 55.

MCNAIR.—On August 15th, at Deddington, Oxon, George McNair, M.R.C.S.E., L.R.C.P., Lond., aged 45 years.

SHIMELD.—On Aug. 19th, at Southend-on-Sea, Winifred Shimeld, the wife of James Shimeld, L.R.C.P., L.R.C.S. Edin, aged 36 years, of Ilford.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages and Deaths

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, August 24th, 1893.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Rainfall.	Remarks at 8.30 A.M.
Aug. 18	29·77	S.	83	67	133	95	72	..	Fine
,, 19	29·89	S.W.	69	63	126	80	65	..	Cloudy
,, 20	29·97	S.W.	73	64	125	79	62	.	Cloudy
,, 21	29·68	S.W.	70	66	116	79	66	·02	Cloudy
,, 22	29·85	S.W.	64	60	126	77	58	·01	Cloudy
,, 23	29·94	S.W.	64	60	122	67	60		Overcast
,, 24	30·04	W.	62	58	119	74	55	·35	Fine

Medical Diary for the ensuing Week.

Monday, August 28.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.; Fridays and Saturdays, at the same hour.

ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M.; and on Tuesday, Wednesday, Friday, and Saturday at the same hour.

ST. MARK'S HOSPITAL.—Operations, 2 P.M.; Tuesday, 2.30 P.M.

ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 2.30 P.M.; Friday, 2 P.M.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, daily at 10 A.M.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M.; and each day at the same hour.

CHELSEA HOSPITAL FOR WOMEN.—Operations, 2 P.M.; Thursday, 2 P.M.

HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M.; and on Thursday at the same hour.

METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.

ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.

CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.

UNIVERSITY COLLEGE HOSPITAL. Ear and Throat Department, 9 A.M.; Thursday, 9 A.M. Eye Department, 2 P.M.

Tuesday, August 29.

GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at the same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.

CANCER HOSPITAL, BROMPTON.—Operations, 2 P.M.; Saturday, 2 P.M.

WESTMINSTER HOSPITAL.—Operations, 2 P.M.

WEST LONDON HOSPITAL.—Operations, 2.30 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M. Skin Department, 1.45; Saturday, 9.15.

ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M. Throat Department, Tuesdays and Fridays, 1.30 P.M. Electro-therapeutics, same day, 2 P.M.

Wednesday, August 30.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.

MIDDLESEX HOSPITAL.—Operations, 1.30 P.M.; Saturdays, 2 P.M. Obstetrical Operations, Thursdays, 2 P.M.

CHARING-CROSS HOSPITAL.—Operations, 3 P.M., and on Thursday and Friday at the same hour.

ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.

LONDON HOSPITAL.—Operations, 2 P.M.; Thursday and Saturday, same hour.

ST. PETER'S HOSPITAL, COVENT-GARDEN.—Operations, 2 P.M.

SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.

GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 1.30 P.M. Dental Department, 9.30 A.M. Eye Department, 2 P.M.

ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.

CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9.30 A.M. Surgical Visits on Wednesday and Saturday at 9.15 A.M.

Thursday, August 31.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday, 1.30 P.M. Ophthalmic Operations, Friday, 1.30 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M. Ear and Throat Department, 9 A.M. Eye Department, 2 P.M.

Friday, September 1.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Eye Department, 2 P.M.

Saturday, September 2.

UNIVERSITY COLLEGE HOSPITAL.—Skin Department, 9.15 A.M.

Notes, Short Comments & Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Publisher."*

We cannot undertake to return MSS. not used.

PUBLISHER'S NOTICE.

IN order to facilitate the work of reference to the volumes of THE LANCET, we have arranged to publish duplicate copies of the Index to each half-yearly volume in a form in which they may be subsequently filed or bound together. Those of our subscribers who may wish to be supplied with loose copies can obtain the same (without extra charge) on making application to the Publisher of THE LANCET.

THE WRITER OF "STRUWEL-PETER."

DR. HEINRICH HOFFMANN of Frankfort, or, as he is often styled, Dr. Hoffmann-Donner, has just celebrated the sixtieth anniversary of his taking his M.D. at the University of Halle. Though he has written several humorous, poetical and medical works, he is best known both in Germany and this country by his "Struwel-Peter," which, though not devoid of descriptions of surgical operations of a sort, can scarcely be styled a medical book. It was written for the writer's children fifty years ago, when juvenile literature had not soared to the heights it has latterly attained. There was at first no idea of publishing the delightful pictures and verses, but a bookseller who happened to see the manuscript persuaded Dr. Hoffmann to let him publish it and his foresight has been rewarded by a run of 172 editions.

F. H. L.—Our correspondent will see that the communication with which we were favoured has received attention in our present issue.

PEMPHIGUS IN ACUTE RHEUMATISM TREATED WITH SALICYLATE OF SODA.

To the Editors of THE LANCET.

SIRS,—The case of extensive pemphigus complicating acute rheumatism reported by Mr. Bayliss at page 439 is analogous to several cases reported in THE LANCET, vol. ii. 1886, pp. 963, 1056 (*vide* Medical Digest, 1454:4 and 1458:4). In those cases it was considered that the eruption was due to the salicylate of soda.

I am, Sirs, yours truly,

Boundary-road, N.W., Aug. 19th, 1893. R. NEALE, M.D.

A CASE OF "SPIRIT RAPPING" EXPLAINED.

PROFESSOR SCHIFF interested and amused the members of the French Association for the Advancement of the Sciences recently by telling them of a patient he had been asked to visit who presented the extraordinary phenomenon of emitting "spirit raps" whilst lying perfectly motionless in a condition of profound lethargy. The patient was a young girl whom he found lying in bed in the state described, and after waiting a few minutes very distinct raps were heard, like taps at a door, apparently proceeding from the bed. An examination showed, however, that there could be no concealed mechanism, and Professor Schiff came to the conclusion that, though there was no motion perceptible through the bedclothes, yet that it was the patient herself who produced the sounds. On thinking the matter over he remembered a resemblance in the sounds to those produced by striking a tense string, and the idea suggested itself that the tendon of the peroneus longus, if put on the stretch, might be "twanged" by moving it over the small prominences separating the sheaths behind the external malleolus. He made a number of experiments, at first with his great toe resting against a wall and afterwards without any support, and found that he could at will produce "spirit-rapping" of so distinct a character that he played the "Marseillaise" to a large circle of medical admirers, sitting in their midst and moving his foot so slightly that his action could not be perceived. We are under the impression, however, that this ingenious explanation of some cases of so-called "spirit-rapping" is not original.

AMERICAN MEDICAL EDUCATION.

To the Editors of THE LANCET.

SIRS,—Can any of your readers inform me about any publication which conveys information about the regulations in force in the American medical colleges? 1. Those colleges which require a curriculum of study at their classes before entering for their M.D. 2. Those colleges which grant the title of M.D. without requiring attendance, but after examination, with the fees &c.

I am, Sirs, yours faithfully,

August, 1893. M.

*** Full and important information on American medical education will be conveyed in an article on that subject to be published in our next issue (the Students' Number), to which we would direct our correspondent's attention.—ED. L.

DENHOLM TESTIMONIAL FUND.

THE above fund has now reached £51 19*s.* 6*d.* The fund will be closed after the first week in September. The honorary secretaries, Mr. Fegen, M.R.C.S., 2, Mornington-road, Bow, and Mr. A. G. R. Foulerton, M.R.C.S., 122, Brompton-road, S.W., will be glad, therefore, if those who propose to subscribe will send in their names at once. Cheques and postal orders should be made payable to the "Denholm Testimonial Fund" and crossed "Messrs. Gurney and Co." Subscriptions will be received by either of the honorary secretaries, or may be paid in direct to the Denholm Testimonial Fund at Messrs. Gurney and Co., Thetford, Norfolk, or at any other branch of the same bank. The following sums have been received since the publication of the last list:—Dr. Vawdry Lush, 10*s.* 6*d.*; Dr. A. A. Mumford, £1 1*s.*

Northumbrian.—Almost any surgical-instrument maker will supply an apparatus such as that indicated by our correspondent.

INFANTILE DIARRHŒA.

To the Editors of THE LANCET.

SIRS,—Some eight or nine years since I read in one of the medical journals (I cannot now remember which) a letter from a medical man advocating the treatment of infantile diarrhœa by the administration of liquor hydr. perchlor., which, he stated, did good by "disinfecting the intestines." Since his letter appeared I have always adopted his treatment where the motions are "thin" and "offensive," and shall continue to do so, so pleased have I been with the result. Flavoured with a little simple syrup the medicine is readily taken by very young infants.

I am, Sirs, yours faithfully,

Camberwell-green, Aug. 22nd, 1893. J. FRENCH BLAKE.

LEPROSY IN FINLAND.

DR. TAGERLUND has published a report on leprosy in Finland in a Finnish medical journal. He states that the present number of lepers in Finland is 52, 33 males and 19 females. Of these, 21 men and 12 women present the tuberculous form and the rest the anæsthetic form of the disease. In Helsingfors there are six lepers.

HOP PICKERS' OPHTHALMIA.

THE affection of the eyes which seems to be prevalent amongst hop-pickers has attracted the attention of Mr. Percy Adams, who has devoted much time to its elucidation, especially from an etiological and therapeutic point of view. The malady he considers to be due in most cases to the habit of the hop-pickers of rubbing their eyes whilst engaged in their work—a practice which frequently results in a mild form of ophthalmia. Mr. Adams would seem to eliminate insanitary conditions as a cause of the affection, though doubtless impure air imbibed in close sleeping-places would act as an accessory. He is not inclined to attribute the ophthalmia to a mechanical cause—namely, the irritation produced by the thorny processes which cover the tracts of the hop catkins. He has not found the alcoholic extract of hop to be of much service in mitigating the pain and inconvenience produced by the affection.

Mr. L. E. Kay-Shuttleworth is thanked for his suggestion. The idea is excellent in itself; but we fear it is beset by so many obvious difficulties as regards publication that it would be impossible for us to undertake a scheme of the kind.

MEDICAL PRACTICE AT THE CAPE.

To the Editors of THE LANCET.

SIRS,—I have seen many letters in THE LANCET lately referring to young men settling in practice in the Colonies, and I observe the remark that the Cape is much overdone. This is true, but the reason is this: large numbers of colonists of Dutch or English extraction are yearly graduating and returning home and have naturally a great advantage to begin with. They have not to learn Dutch (the language of the bulk of our population) and they understand the ways and customs of the country, with which it takes us some time to be *au fait*. I do not think that German have any advantage over English practitioners—in fact, we are all foreigners. Personally, it does not matter to me; as an old practitioner here I can earn my living anywhere. But I should not advise men at home, unless they have friends or relatives in these parts, to settle out here in practice, unless, of course, they have special qualifications.

I am, Sirs, yours truly,

South Africa. OLD PRACTITIONER.

THE KONDEH PEOPLE.

AT a late meeting of the Berlin Anthropological Society a paper was read by M. Merensky, in which he described the Kondeh people. They inhabit a district situated on the shores of Lake Nyassa, under the dominion of Germany. In war time cruelty is as far as possible avoided, and women and children who have been taken prisoners are set free. In the eye of the law the position of the women is equal to that of the men. Suicide seems to be not infrequent. Curiously enough, the form of death most in favour with these people is to voluntarily place themselves within reach of the jaws of a crocodile!

MEDICAL ETHICS IN WALSALL.

WITH reference to a communication which we have received from Walsall signed by several medical men, we observe that the matter to which it refers is *sub judice* and therefore it would be improper for us to express an opinion upon it.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received:—*Morning Post, Dover Telegraph, Morning, Westminster Budget, Times, Reading Mercury, Hertfordshire Mercury, City Press, Local Government Chronicle, Mining Journal, Sanitary Record, Weekly Free Press and Aberdeen Herald, Leeds Mercury, Liverpool Daily Post, Bristol Mercury, Yorkshire Post, West Middlesex Advertiser, Guy's Hospital Gazette, Australasian Medical Gazette, Surrey Advertiser, Local Government Journal, Le Figaro (Paris), Newcastle Leader, Manchester Guardian, South Wales Daily News, Dundee Courier, Cape Times, Citizen, Sunday Times, Builder, Architect Times of India, Pioneer Mail, Medical Record (New York), Le Temps (Paris), Birmingham Post, Invention, Caterer, Beverley Independent Surrey Mirror, Walsall Advertiser, Huddersfield Chronicle, Wigan Examiner, Sussex News, Glasgow Evening News, Veterinary Record, Scotsman, Bradford Observer, Scottish Leader, Manchester Courier, Alnwick Gazette, Alcester Chronicle, Ashton-under-Lyne Reporter, Brighton Argus, &c. &c.*

Communications, Letters &c. have been received from—

A.—Mr. J. W. Arrowsmith, Bristol; A. A., Sheffield; A. T., Darlington; A., London.

B.—Dr. W. H. Bishop, Newcastle-on-Tyne; Mr. J. Ffrench Blake, London; Mr. J. Clay Beckitt, Wigan; Mr. C. W. Browne, London; Mr. W. S. Battiss, London; Messrs. Blades, East and Blades, London; Messrs. Bray and Peters, Holsworthy; Messrs. Burroughs, Wellcome and Co., London.

C.—Dr. T. P. Cowen, Manchester; Mr. F. G. Carrington, Gloucester; Mr. J. Coates, London; Mr. R. Courteen, Colwyn Bay; Mr. J. E. Cornish, Manchester; City Surgeon, Chichester.

D.—Mr. R. A. Dove, Edinburgh; Rev. J. Dowe, Leicester; Messrs. Dawson and Sons, Limited, London.

E.—Dr. George Elam, London; Enquirer; Edinburgh School of Medicine, Secretary of.

F.—Dr. D. Forbes, Bristol; Mr. S. Fisher, London; Mr. H. Fox, Newcastle-on-Tyne; Felix, London.

G.—Dr. E. H. Gregg, Ohio; Glasgow Faculty of Physicians and Surgeons, Secretary of.

H.—Dr. T. Greenwood Hall, Cape Colony; Mr. J. W. Horsley, Woolwich; Mr. T. C. Harrison, Derby; Mr. J. Heywood, Manchester; Hardworker, London.

I.—Mr. A. G. L. Irvine, Birmingham; Increase, London.

J.—Mr. J. Jackson, Workington.

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